Australian Government

Australian Research Council

Annual Report 2015–16

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LETTER OF TRANSMITTAL

7 October 2016

Senator the Hon Simon Birmingham
Minister for Education and Training
Parliament House
CANBERRA ACT 2600

Dear Minister

It is with great pleasure that I present the Australian Research Council (ARC) Annual Report for 2015–16.

This report has been prepared for the purposes of:

- section 46 of the *Public Governance, Performance and Accountability Act 2013,* which requires that an annual report be given to the entity's responsible Minister for presentation to the Parliament
- section 46 of the *Australian Research Council Act 2001* (ARC Act).

Under section 46 of the ARC Act, the report provided to you must also deal with (a) any matters required by other provisions of the ARC Act to be dealt with in the report (Ministerial directions); and (b) any other matters that the Minister, by notice in writing to the Chief Executive Officer, requires to be dealt with in the report. There were no relevant matters to be dealt with in the 2015–16 annual report.

As the Accountable Authority of ARC, I certify that:

- fraud risk assessments and fraud control plans have been prepared
- appropriate mechanisms for preventing, detecting incidents of, investigating or otherwise dealing with, and recording or reporting fraud that meet the specific needs of the ARC are in place
- all reasonable measures have been taken to deal appropriately with fraud relating to the ARC.

Yours sincerely

Ms Leanne Harvey
Acting Chief Executive Officer

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PART 1

OVERVIEW

THE AUSTRALIAN RESEARCH COUNCIL

Our vision

Research for a creative, innovative and productive Australia

Our mission

To deliver policy and programmes that advance Australian research and innovation globally and benefit the community

Our guiding principles

- Excellence in achieving our mission
- Benefit to the community through economic and social return on investment, engaged and informed decision-making and efficiency of operations
- Engagement with government, universities, research agencies, businesses and the wider community, nationally and internationally
- Accountability through adherence to ethical standards and government policy using transparent, efficient and effective processes

1.1 REVIEW BY THE CHIEF EXECUTIVE OFFICER

Ms Leanne Harvey
Acting Chief Executive Officer

Introduction

I am pleased to present the Australian Research Council (ARC) Annual Report for 2015–16.

As Acting Chief Executive Officer (CEO), I would like to begin by acknowledging the contribution of Professor Aidan Byrne who was the ARC's CEO until recently. Professor Byrne has now taken up the position of Provost at The University of Queensland. Since joining the ARC in 2012, Professor Bryne has been a tireless advocate, not only for the ARC, but for Australian research and researchers more generally. During his leadership, he was instrumental in the delivery of a range of key priorities within the agency, including refinements to Excellence in Research for Australia (ERA), redevelopment of the grants ICT systems, and increasing accountability and openness with ARC data. More recently Professor Byrne has actively driven work on implementing the new engagement and impact assessment for Australia as well as the continuous application and assessment processes under the Linkage Projects scheme. His presence at the ARC will be missed.

The year in review—significant developments

During 2015–16, a range of research policy activities initiated by the Australian Government were finalised. In December, the Government released the National Innovation and Science Agenda (NISA), announcing $1.1 billion over four years for a range of initiatives to support innovation across the Australian economy. The development of NISA was informed by a range of supporting activities including the Review of Research Policy and Funding Arrangements (the Watt review) and the Boosting the Commercial Returns from Research strategy. As part of NISA, the ARC was assigned responsibility for developing and implementing two new initiatives—an engagement and impact assessment and a continuous application and assessment process for the Linkage Projects scheme.

Importantly, passage of the *Higher Education Legislation Amendment (Miscellaneous Measures) Bill 2015* meant that funding for the Future Fellowships scheme, which is focused on mid-career researchers, was secured as an ongoing scheme. The commitment to fund 100 four-year fellowships per year from 2016 onwards was welcomed by the sector. The end of the early career and movement into mid-career is recognised as a critical point in the timeline of a researcher's employment. It is the point at which many researchers make the decision to pursue research as a lifetime career, and continuation of the Future Fellowships scheme reflects the Australian Government's recognition of that fact.

The year in review—highlights of performance

Research grants awarded

Through the National Competitive Grants Programme (NCGP) the ARC awarded 1227 new research grants with total funding of $563 million commencing in 2015–16 (comprising 265 fellowships and awards, 11 training centres and research hubs and 951 research projects). These are the visible outputs of the ARC's activities each year, but as indicated by our performance criteria (pages 18–58) they are much more than that. They are the means by which the NCGP is helping to build Australia's research capacity, supporting the training and career development of the highest-quality researchers, helping them build linkages with researchers and organisations here and overseas and growing Australia's capability in areas of priority. In the longer term, they are the discoveries and developments that will help build Australia's knowledge base and maintain our quality of life. All of these elements are described in Section 2.2.

Release of ERA National Report

The Government released the *State of Australian University Research 2015–16: Volume 1 ERA National Report* in December 2015. The report shows the quality of Australian university research has continued to improve, with the majority of research at Australian higher education institutions rated at world standard or above. There was a general increase in ratings with more universities moving to 3, 4 and 5 ratings compared to 1 and 2. This is great news for Australia and shows how ERA has been an important driver to focus attention on the quality, not just the quantity, of Australian research. I would like to acknowledge the contribution of everyone involved including universities, research evaluation committees and ARC staff.

Policy development

This year the ARC released a statement of support and expectations for gender equality in research as well as an associated action plan. The ARC faces challenges as a research funding body in promoting the equality and status of women—the release of the statement articulates our commitment to take action in this area and to monitor the resulting outcomes of those actions. It is a longer term challenge because while the success rates of male and female applicants are relatively even, improvements are still needed in the participation rate of female researchers. Our release of a consolidated set of gender statistics at the same time as the statement and action plan is helping to highlight the importance of this dimension.

We also continued to work with the National Health and Medical Research Council (NHMRC) and Universities Australia in a review of the *Australian Code for the Responsible Conduct of Research* (Code). Adhering to the Code, which guides researchers in responsible research practices, is a condition of ARC and NHMRC funding. With the current version of the Code dated 2007, it is being reviewed now to ensure it remains practical and relevant to research practice which is critical to its ongoing acceptance by the research sector.

Stakeholder engagement

In December 2015 the ARC was proud to co-host, with Papua New Guinea, the Asia-Pacific Regional Meeting of the Global Research Council in Canberra. The meeting discussed research policy and compared experiences and lessons learned for issues which cross national boundaries. Particular areas of focus at this meeting were interdisciplinary research and gender equality, with outcomes informing the full meeting of the Global Research Council attended by Professor Byrne in India in May 2016.

New ARC website

In July 2015 we launched a new ARC website which has been well-received by our stakeholders. As part of that process we ensured the website met the Web Content Accessibility Guidelines. We also took the opportunity to develop and release some new functionality for the website with a new ARC Grants Search launched on the same day. The Grants Search makes it easier for our stakeholders to find details of all ARC-funded research projects since 2002, when the NCGP was first established.

Research Management System

A pillar of our engagement with researchers and universities applying for NCGP funding is our Research Management System. During the year, we worked to make it easier for researchers to submit their applications and receive funding announcement material through the system, reducing the time researchers spend applying for ARC grants and reporting on them, allowing them to focus on research. To date this has been met with great enthusiasm and we are planning to make further improvements in post-award functionality, including revisions to the final reporting arrangements for ARC-funded research projects.

Financial management

The ARC's total appropriated resources for 2015–16 were $846.1 million, comprising $821.1 million for the administered appropriation and $24.6 million for the departmental appropriation. Further information on the financial performance of the agency is provided in Section 2.5.

Outlook for 2016–17

During 2016–17, the measures announced as part of NISA will continue to be a priority for the ARC. The continuous application process for the Linkage Projects scheme was opened 1 July 2016, but we expect that there will be ongoing work to ensure the process is efficient and effective. With the assistance of the sector, we will also continue to develop the engagement and impact assessment. We are working towards pilot assessments in 2017, followed by the first national assessment in 2018 which will run at the same time as the next round of ERA. Both measures will support greater engagement between industry and the research sectors and support innovation in Australia.

With the third round of ERA now complete, making use of the exceptional longitudinal dataset available to us will be a priority over the coming year. We are looking forward to releasing, for the first time, additional ERA volumes that will give further insights into the state of Australian university research.

And we are also looking forward to welcoming a new CEO to the agency.

KEY ELEMENTS OF THE ARC'S 2015–16 POLICY ENVIRONMENT

National Innovation and Science Agenda

In December 2015, the Australian Government released its *National Innovation and Science Agenda* (NISA), which is aimed at increasing the opportunities available through innovation to create business growth, local jobs and global success. The ARC is responsible for implementing two measures announced as part of NISA: a continuous application process under the Linkage Projects scheme, and establishment of an engagement and impact assessment.

Review of Research Policy and Funding Arrangements

Also in December 2015, the Government released the final report of the Review of Research Policy and Funding Arrangements (Watt review). On 6 May 2016 the Government accepted all 28 recommendations of the Watt review. The report contains a number of recommendations relevant to the ARC in the areas of competitive grants programmes, intellectual property and assessment of engagement and impact of university research.

Science and Research Priorities

In 2015, the Government released nine Science and Research Priorities aimed at building Australia's capacity in these areas. They are: food, soil and water, transport, cybersecurity, energy, resources, advanced manufacturing, environmental change and health. The ARC supports research in these priorities across all funding schemes of the NCGP.

Digital Transformation Agenda

The Government's Digital Transformation agenda is aimed at driving the digital transformation of government information and services, making them simpler, clearer and faster. The ARC has been redeveloping its Research Management System to provide a comprehensive IT system to support the administration of the NCGP.

Streamlining Grants Administration Programme

The Government's Streamlining Grants Administration Programme aims to establish a consistent whole-of-government grants administration process; two grants administration hubs serviced by two ICT systems; and a data warehouse to analyse Australian Government grants data.

THE YEAR IN PHOTOS

The 2016 major grants announcement was made in October 2015 at The University of Adelaide. Pictured at the launch (left to right) ARC CEO, Professor Aidan Byrne, and Minister for Education and Training, Senator the Hon. Simon Birmingham with University of Adelaide's Professor Julie Owens, Pro Vice-Chancellor-Research Strategy; Professor Mike Brooks, Deputy Vice-Chancellor and President (Research); Dr Kenji Sumida (DECRA researcher). Image courtesy of the ARC, Russell Millard Photography

ARC CEO, Professor Aidan Byrne at the 2016 major grants announcement. Image courtesy of the ARC, Norman Plant Photography

The ARC Research Hub for Wheat in a Hot and Dry Climate was launched in September 2015 at The University of Adelaide's Waite campus. Pictured at the launch (left to right) research officer Sanjiv Satija; German visiting student Pia Mueller; Research Hub Director, Associate Professor Sigrid Heuer; and ARC CEO, Professor Aidan Byrne. Image courtesy of The University of Adelaide

The 2016 Australian Laureate Fellows were announced on 6 May 2016 by the Minister for Education and Training. Pictured at the announcement (back, left to right) David Craik, Philip Hugenholtz, Steven Sherwood, ARC CEO Professor Aidan Byrne, Justin Gooding, Zhen-Xiang Li, Benjamin Andrews (front, lef to right) Leann Tilley, Anne Orford, Ping Koy Lam, Lisa Kewley, Ronald Rapee, Kerrie Mengersen. Image courtesy of the ARC, Norman Plant Photography

1.2 THE AUSTRALIAN RESEARCH COUNCIL

History

The ARC was established as an independent Commonwealth entity in July 2001. Historically however, the funding schemes administered by the ARC have been in existence for much longer. The Australian Research Grants scheme, for example, was the original precursor of today's Discovery Projects scheme, and was first established in 1965.

Legislation

The ARC is established under the *Australian Research Council Act 2001* (ARC Act). The Act provides details in relation to:

- the function of the ARC
- the establishment of designated committees
- the Chief Executive Officer and ARC staff
- reporting requirements
- funding of research including the funding cap, funding assistance, funding rules and ARC research endowment fund
- other miscellaneous requirements including delegations.

The ARC Act is normally updated annually through an amendment bill which allows continued funding under the National Competitive Grants Programme (NCGP).

Role and functions

The ARC administers the NCGP, has responsibility for Excellence in Research for Australia (ERA), and advises the Australian Government on research matters.

Administering research funding schemes

Through the NCGP the ARC supports excellent research and research training across all disciplines. The NCGP comprises two programmes—Discovery and Linkage—under which the ARC funds a range of complementary schemes that provide funding for basic and applied research, research training, research collaboration and infrastructure. Funding is awarded on the basis of a competitive peer review process.

Administering research evaluation frameworks

The ARC supports the growth of knowledge and innovation by administering two evaluation frameworks to assess the quality, engagement and impact of research.

ERA is an established research quality assessment framework that measures and reports on the quality of research conducted at Australia's higher education institutions. It provides a national stocktake of discipline-level areas of research strength and areas where there is opportunity for development across the full spectrum of research activity.

The ARC is also developing an engagement and impact assessment that will run in conjunction with the existing ERA framework. The engagement and impact assessment will assess the engagement of university researchers with end-users, and the benefits of Australia's investment in university research by showing how universities are translating their research into economic, social, environmental and other impacts.

Providing advice on research matters

The ARC is responsible for providing policy advice to the responsible Minister about matters related to research, including: research and research training, research partnerships and the quality of research in Australia.

Stakeholders

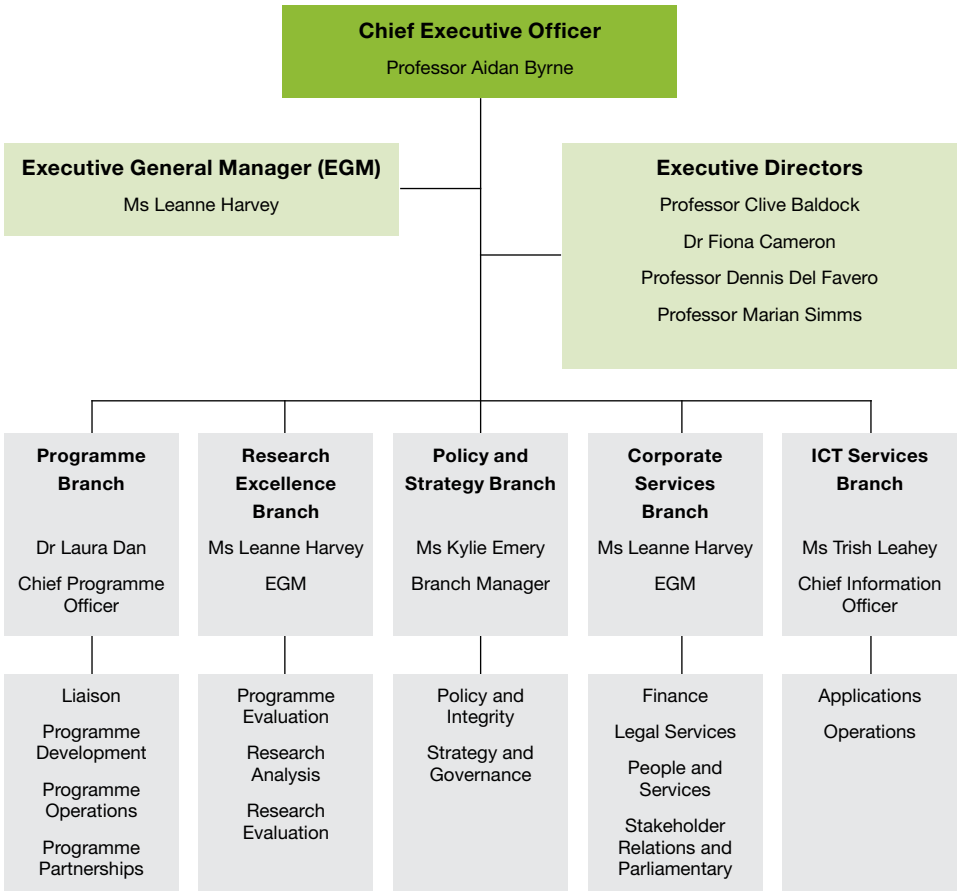
The ARC's key stakeholders are the Australian Government, Australian universities, partner organisations (including industry, government, not-for-profit, business and international education), publicly funded research agencies, research peak bodies, the global research sector, and Australian taxpayers.

Within the Australian Government, the ARC works closely with the National Health and Medical Research Council (NHMRC) on a range of research matters including administration of competitive granting schemes, review of the *Australian Code for the Responsible Conduct of Research*, and administration of the Australian Research Integrity Committee. While the ARC funds research across all disciplines (with the exception of clinical medicine) the NHMRC provides funding for all areas of research relevant to human health and medicine. The ARC also works closely with its portfolio agency, the Department of Education and Training, as well as the Department of Industry, Innovation and Science.

Organisational structure

The structure of the ARC at 30 June 2016 is illustrated in Figure 1.1.

Figure 1.1: Structure of the ARC (at 30 June 2016)



Performance framework

Outcome and Programmes 2015–16

The ARC has one Outcome and three Programmes (*Portfolio Budget Statements (PBS) 2015–16*).

Figure 1.2: ARC Outcome and Programmes, 2015–16

Outcome	1
	Growth of knowledge and innovation through managing research funding schemes, research excellence and providing policy advice

Programmes	1.1	1.2	1.3
	Discovery–research and research training	Linkage–cross-sector research partnerships	Excellence in Research for Australia

Purposes 2015–16

As outlined in the *ARC Corporate Plan 2015–16 to 2017–18* the ARC has three purposes: managing research funding schemes, measuring research excellence; and providing advice.

These purposes and their associated performance measures align with the programmes and performance measures outlined in the 2015–16 PBS. A mapping between the two documents is provided in Table 2.1 (page 16).

Developments during 2015–16

In 2015–16:

- as part of the Additional Budget Estimates processes in February 2016, Programme 1.3 ERA was expanded to include 'development and conduct of an engagement and impact assessment' (see page 65 for additional information)
- the ARC had implemented a continuous application and assessment process under the Linkage Projects scheme to commence 1 July 2016
- the ARC continued to develop its performance measurement framework (including performance criteria and targets) in line with the new requirements for planning and reporting under the *Public Governance, Performance and Accountability Act 2013*. Further work on the framework will be undertaken during 2016–17.

PART 2

PERFORMANCE

2.1 ANNUAL PERFORMANCE STATEMENT: INTRODUCTION

Introductory statement

I, as the Accountable Authority of the Australian Research Council (ARC), present the 2015–16 annual performance statements of the ARC, as required under paragraph 39(1)(a) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). In my opinion, these annual performance statements are based on properly maintained records, accurately reflect the performance of the entity, and comply with subsection 39(2) of the PGPA Act.

Leanne Harvey
Acting Chief Executive Officer

Purposes

The ARC has three purposes:

- to manage research funding schemes
- to measure research excellence
- to provide advice.

These purposes are consistent with the Australian Government's expected Outcome for the ARC which is 'growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice' (*Education and Training Portfolio Budget Statements (PBS) 2015–16*, page 155). Mapping to the ARC's Outcome and three Programmes is provided in Table 2.1.

Table 2.1: Mapping PBS Outcome and Programmes to Corporate Plan Purposes

Purpose	Outcome	Programme
Manage research funding schemes	1	1.1: Discovery 1.2: Linkage
Measure research excellence	1	1.3: Excellence in Research for Australia (ERA)
Provide advice	1	1.1: Discovery 1.2: Linkage 1.3: ERA

Results and analysis

A separate performance statement is provided for each of the three purposes:

- Purpose 1: Manage research funding schemes (section 2.2)
- Purpose 2: Measure research excellence (section 2.3)
- Purpose 3: Provide advice (section 2.4).

The performance statement for each purpose comprises:

- a **description** of the activity
- a description of the highlights of **delivering** the activity in 2015–16
- a summary of the **results** achieved in 2015–16 including:
  - a description of the intended result
  - a description of the activities undertaken by the ARC to help achieve the intended result (Purpose 1 only)
  - a report of performance against the measures identified in the PBS and corporate plan
  - an analysis of the performance against the intended result as indicated by the measures
- if relevant, an **analysis** of the factors which impacted on the ARC's performance in achieving its purpose in 2015–16 (including changes in its purpose, activities or environment).

2.2 ANNUAL PERFORMANCE STATEMENT: PURPOSE 1

Purpose

Managing research funding schemes (Outcome 1, Programmes 1.1 and 1.2)

Description

The ARC administers the National Competitive Grants Programme (NCGP). The NCGP comprises two programmes, Discovery and Linkage, under which the ARC funds a range of research funding schemes that support excellent, internationally competitive research projects, fellowships and awards, infrastructure, hubs and centres. In 2015–16 the ARC administered the following schemes (see Appendix 1 for description):

- **Discovery programme**: Australian Laureate Fellowships; Discovery Early Career Researcher Award; Discovery Indigenous; Discovery Projects; and Future Fellowships
- **Linkage programme**: ARC Centres of Excellence; Industrial Transformation Research Hubs; Industrial Transformation Training Centres; Linkage Infrastructure, Equipment and Facilities; Linkage Learned Academies Special Projects; Linkage Projects; and Special Research Initiatives.

Through the research funding schemes the ARC aims to deliver outcomes of benefit to Australia and build Australia's research capacity by: supporting excellent internationally competitive research; providing training and career opportunities for current and emerging researchers; fostering industry and other end-user engagement; supporting international collaboration; and encouraging research that will strengthen Australia's capacity to respond to emerging priorities.

Highlights of delivery

The deliverables for the Discovery and Linkage Programmes, as identified in the 2015–16 Portfolio Budget Statements (PBS) are grants, grants management and strategic policy advice on research, research training and research partnerships (PBS pages 159;162).

In 2015–16, the ARC:

- conducted selection processes which considered 6186 proposals for NCGP funding and awarded 1227 new grants, involving 3820 researchers, worth $563 million
- administered 5287 new and ongoing grants under the NCGP, providing a total of $775 million in grant payments to administering organisations
- undertook a range of NCGP-related policy development activities (see Section 2.4 for further information).

Results

Explanatory notes

- The measures identified for Purpose 1 are intended to provide an indication of the NCGP's contribution to delivering outcomes of benefit to Australia and building Australia's research capacity.
- The measures assess outputs and/or outcomes at different stages of the grant lifecycle.
- In preparing this year's annual report under the new performance framework, the ARC identified several points which should be considered in reading this section.
  - Some measures relate to matters which are outside the ARC's influence, potentially impacting upon ARC's ability to achieve these targets. Factors include economic conditions affecting the ability of partner organisations to make financial contributions to research projects, and the longer term realisation of research benefits.
  - Measuring performance against a target of maintaining or increasing certain performance levels should be done in the context of multiple year trends rather than single year results. Multiple year trends in performance against measures 1 to 14 are summarised in Appendix 3.
- The ARC will undertake a comprehensive review of its performance measures in 2016–17 to ensure performance information is robust and fit for purpose.
- Readers should also note that figures reported in this section are grants awarded and do not directly reflect financial statement information.

Data

- Data for the Discovery and Linkage Programmes includes the outcomes of scheme rounds with funding commencing in 2015–16. Unless otherwise stated:
  - Discovery Programme includes: Discovery Early Career Researcher Award (2016), Discovery Indigenous (2016), Discovery Projects (2016), Future Fellowships (2015) and Australian Laureate Fellowships (2015) schemes.
  - Linkage Programme includes: Linkage Projects (2015), Industrial Transformation Research Hubs (2016), Industrial Transformation Training Centres (2015) and Linkage Infrastructure, Equipment and Facilities (2016) schemes.
- Data and information from final reports are drawn from final reports for research projects commencing in 2011 which have been approved by the ARC. Projects are generally awarded for three to five years and researchers have 12 months after completion of their research to submit a final report.
- Where targets are 'maintain or increase', 2015–16 results are compared to a four year average.

Intended result: Outcomes of benefit to Australia

Description

Advances in knowledge and innovation make a significant contribution to Australia's economy as well as to the health and prosperity of the Australian community. The ARC's aim is to support the highest quality researchers to conduct research that will help deliver outcomes of benefit both in the short and longer term.

Activities

In pursuing this result in 2015–16, the ARC:

- funded the highest quality research and researchers through a competitive peer review process
- used selection criteria in its funding schemes that reflected the intended objective of delivering outcomes of benefit to Australia
- asked researchers applying for ARC funding to describe the impact of their proposed research project where impact is defined as 'the demonstrable contribution that research makes to the economy, society, culture, national security, public policy or services, health, the environment, or quality of life, beyond contributions to academia'.

Performance

Measure 1	**Evidence of economic, environmental, social, health and/or cultural benefits to Australia arising from NCGP research, including in areas of priority**	
Source	CP 2015–19 page 25; PBS 2015–16 pages 160 and 162	
Target	Identification of at least 15 case studies annually (Discovery and Linkage Programmes)	
Results	**Discovery and Linkage Programmes**: Sixteen case studies are provided at the end of this section.	**Target met**

Analysis

The case studies on pages 42-58 demonstrate the breadth of outcomes resulting from ARC-funded research. In brief, the case studies outline research which is:

- contributing to important international scientific advances in the discovery of gravitational waves (Case study 1)
- using maths and virtual reality to help protect endangered animals (Case study 2)
- supporting an aging population with innovative technology (Case study 3)
- developing techniques for producing more cost-effective drugs (Case study 4)
- assisting farmers to access new economic opportunities (Case study 5)
- investigating alternative sustainable energy sources (Case study 6)

- helping to manufacture more environmentally-friendly pesticides (Case study 7)
- inventing new ultra-lightweight materials (Case study 8)
- improving access by rural and regional communities to professional artistic productions (Case study 9)
- developing clean energy technologies (Case study 10)
- creating the next generation of high-resolution microscopes (Case study 11)
- inventing materials that can remove toxic mercury from groundwater and soil (Case study 12)
- broadening our understanding of Indigenous languages and cultures (Case study 13)
- investigating printing sensors to monitor sun exposure (Case study 14)
- using big data to support the mining industry (Case study 15)
- revolutionising bone replacement with the help of 3D printing (Case study 16).

Measure 2	**Proportion of completed NCGP research projects that report their objectives were met**	
Source	CP 2015–19 page 25; PBS 2015–16 pages 160 and 162	
Target	Greater than 95 per cent (Discovery and Linkage Programmes)	
Results	**Discovery Programme:** 99 per cent	**Target met**
	Linkage Programme: 99 per cent	**Target met**

Analysis

The case studies identified in response to Measure 1 provide a snapshot of the outcomes achieved from ARC-funded research every year. Information drawn from completed research projects shows that almost all (99 per cent) of the projects funded by the ARC achieve the objectives they set out to meet.

Intended result: Building Australia's research capacity by supporting excellent research and researchers

Description

Funding excellent research and researchers will help build and maintain a world-class research base in Australia; facilitating the development of collaborative research partnerships as well as opportunities for investment by end-users including industry. The ARC's aim is to provide funding support for the highest quality research and researchers.

Activities

In pursuing this result in 2015–16, the ARC:

- administered a rigorous peer review process involving national and international assessors
- supported participation in the NCGP by researchers from both Australia and overseas, at all career stages and from under-represented groups.

Performance

Measure 3	Proportion of Category 1 research income associated with world standard research	
Source	CP 2015-19 page 25; PBS 2015–16 pages 160 and 162	
Target	Maintain or increase the proportion of Category 1 research income associated with world standard research (Discovery and Linkage Programme)	
Results	The ARC has decided to discontinue use of this measure. Further information is provided below.	**Target not measured**

Analysis

During 2015–16, the ARC conducted additional analysis of its performance measures. As a result of that analysis, the ARC decided to discontinue use of this measure. While the contribution that ARC funding makes to all the Higher Education Research Data Collection Category 1 income can be reported (46 per cent or $2.241 billion out of a total of $4.821 billion), this cannot be linked directly to the standard of the research.

In the absence of the analyses proposed for Measure 3, outputs of research are used as an indicator of research excellence. During the year the ARC continued to collect information on the outputs of ARC-funded research projects through final reports submitted to the agency. Under the Discovery and Linkage Programmes, research projects and fellowships initially funded in 2011 produced on average 10.8 academic outputs per project as well as a total of 59 commercialisation outputs including four startup companies.

These results were obtained within the first 12 months of finalisation of the project, and can be viewed as early commercialisation outputs with the final results likely to be higher.

Measure 4	ARC-funded researchers win prestigious prizes and awards	
Source	CP 2015-19 page 25; PBS 2015–16 pages 160 and 162	
Target	ARC-funded researchers win prestigious prizes and awards (Discovery and Linkage Programmes)	
Results	**Discovery and Linkage Programmes:** Examples of 2015–16 prizes and awards won by ARC-funded researchers are provided in Appendix 3	**Target met**

Analysis

ARC funding is awarded to the highest quality research proposals as assessed against a range of criteria including (depending on the scheme) the excellence of the research proposed and the investigators involved (as judged on the basis of performance evidence against research opportunity).

External acknowledgement is considered to be a proxy indicator of the excellence of researchers. ARC-funded researchers have a strong record of winning prizes and awards (as reported in previous annual reports) and this continued in 2015–16.

Prizes and awards covered all career ages, from early career researchers (for example, through the State Young Tall Poppy Awards) to more established researchers (the Prime Minister's Science Prizes).

Intended result: Building Australia's research capacity by supporting research training and career development

Description

Research performance is critically dependent on access to highly qualified and skilled personnel. The ARC's aim is to foster research training and career development opportunities through its funding schemes, including opportunities under its Linkage Programme for researchers to spend time in industry organisations.

Activities

In pursuing this result in 2015–16, the ARC:

- provided support directly, through:
  - awards and fellowships to selected individuals at all career stages
  - the Industrial Transformation Training Centres scheme, which is specifically targeted at funding HDR students conducting research in Industrial Transformation priority areas
  - funding for postgraduate and postdoctoral researchers to work in teams with the world-class researchers awarded Australian Laureate Fellowships
- provided support indirectly, through other ARC-funded research projects (including Discovery Projects and Linkage Projects, and ARC Centres of Excellence).

In addition, the ARC continued to:

- encourage international applicants by making all ARC fellowship and award schemes open to the best researchers whether they are already located in Australia or attracted to come to Australia from overseas (including returning Australians)
- implement Research Opportunity and Performance Evidence (ROPE) as a selection criterion under all its funding schemes. ROPE requires assessors to look at opportunities available to a researcher when considering their track record
- administer the Discovery Indigenous scheme, which supports research programmes led by Aboriginal and Torres Strait Islander researchers and aims to build the research capacity of higher degree research students and early career researchers.

Performance

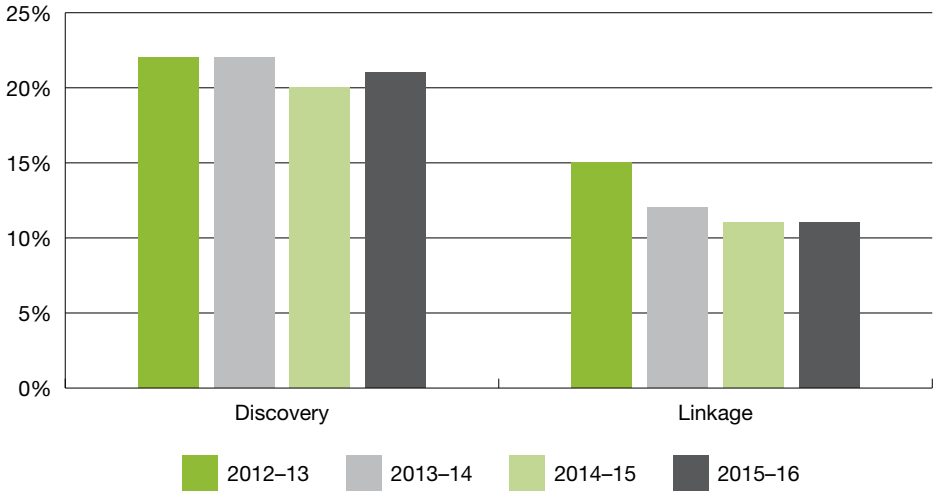
Measure 5	Number of early career researchers supported under ARC funded research	
Source	CP 2015-19 page 25; PBS 2015–16 pages 160 and 163	
Target	Maintain or increase the proportion of early career researchers supported under ARC-funded research (where the ARC defines an early career researcher as a researcher within five years of award of a PhD) (Discovery Programme: Discovery Early Career Researcher Award; Discovery Indigenous and Discovery Projects. Linkage Programme: Linkage Projects)	
Results	**Discovery Programme (as above):** 21 per cent in 2015–16 (the same as the four-year average)	**Target met**
	Linkage Projects: 11 per cent in 2015–16 (slightly less than the the four-year average of 12 per cent)	**Target not met**

Analysis

In 2015–16, the ARC maintained the proportion of early career researchers supported under the Discovery and Linkage Programmes at previous levels.

The Discovery Programme figure is higher than the Linkage Programme figure because the Discovery Programme includes the Discovery Early Career Researchers Award scheme, a scheme specifically targeted at supporting early-career researchers. The Discovery Programme also includes the Discovery Projects scheme which is the ARC's main scheme for supporting individual researchers or teams of researchers.

Figure 2.1: Proportion of early career researchers, 2012–13 to 2015–16



Measure 6	Proportion of ARC funded research projects involving Higher Degree by Research (HDR) students	
Source	CP 2015-19 page 25; PBS 2015–16 pages 160 and 163	
Target	Maintain or increase proportion of ARC-funded research projects involving HDR students (2015–16 is identified as the baseline year) (Discovery Programme: Discovery Indigenous, Discovery Projects, Super Science Fellowships. Linkage Programme: Linkage Projects)	
Results	**Discovery Programme (as above)—Baseline year**: 72 per cent of ARC-funded research projects indicated that they involved HDR students	**Target met**
	Linkage Projects—Baseline year: 69 per cent of ARC-funded research projects indicated that they involved HDR students	**Target met**

Analysis

ARC-funded research projects continued to make a significant contribution to HDR support with approximately 70 per cent of both Discovery and Linkage research proposals indicating that their research involved a HDR student.

In recent years, the ARC also started to collect data on the intent of researchers awarded ARC funding to employ PhD, Masters or Honours students. Across key Discovery schemes with grants commencing in 2015–16 (Discovery Early Career Researcher Award, Discovery Projects, Australian Laureate Fellowships and Future Fellowships) 900 research projects indicated that they would involve 1328 PhD students, 371 Masters students and 1647 Honours students.

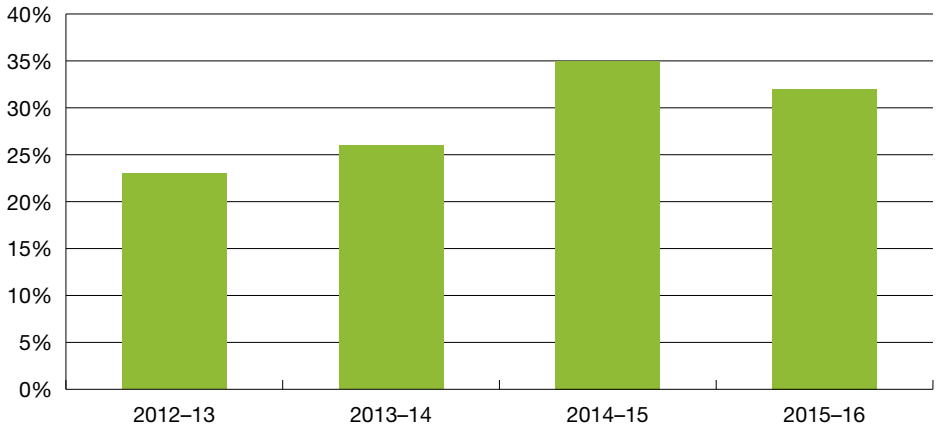
Measure 7	Proportion of fellowship/award recipients that are international applicants	
Source	CP 2015–19 page 25; PBS 2015–16 pages 160 and 162	
Target	Maintain proportion of fellowship/award recipients that are international applicants (Discovery Programme: Australian Laureate Fellowships, Discovery Early Career Researcher Award, and Future Fellowships)	
Results	**Discovery Programme (as above):** 32 per cent (higher than the four-year average of 29 per cent)	**Target met**

Analysis

As noted in Figure 2.2, the proportion of ARC fellowships/awards that went to international applicants (including returning Australians and foreign nationals) fell compared to the result recorded in 2014–15 but was above the figure recorded in 2013–14.

The drop in figures between 2014–15 and 2015–16 may be influenced by (i) the outcomes of the Australian Laureate Fellowships scheme in 2015–16 under which no fellowships were awarded to international applicants, and (ii) the change to the Future Fellowships scheme noting that preference would be given to Australian researchers. The ARC will continue to look for opportunities to raise awareness of the funding opportunities available to support research activities in Australia.

Figure 2.2: International recipients of ARC fellowships and awards, 2012–13 to 2015–16

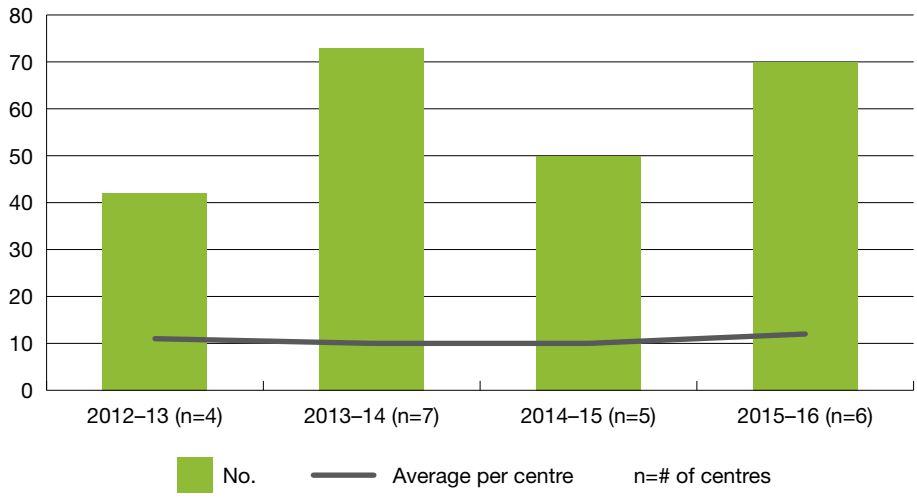


Measure 8	Number of HDR students supported under the Industrial Transformation Research Programme
Source	CP 2015-19 page 25; PBS2015–16 pages 160 and 163
Target	Maintain or increase the number of HDR students supported under the Industrial Transformation Research Programme (Linkage Programme)
Results	**Industrial Transformation Research Programme** **Target met** ◆ Industrial Transformation Training Centres awarded funding commencing in 2015–16 indicated that 70 HDR students would be supported, compared to 50 in 2014–15 and 73 in 2013–14 ◆ Industrial Transformation Research Hubs awarded funding commencing in 2015–16 indicated that 79 HDR students would be supported

Analysis

The increase in Industrial Transformation Training Centres results in 2015–16 is the result of six centres being funded in that year compared to five in 2014–15 (Figure 2.3). At the same time, the average number of HDR students supported per centre has remained relatively constant. The demand for industry-linked research training remained strong in 2015–16 with the ARC receiving 28 proposals for funding under the Industrial Transformation Training Centres scheme, compared to 17 received in 2014–15.

Figure 2.3: Number of HDR students supported in training centres, 2012–13 to 2015–16



Intended result: Building Australia's research capacity by supporting engagement between universities and other research sectors

Description

Research is a collaborative activity with successful researchers and research organisations working together, partnering and networking to generate multiplier effects. The ARC's aim in supporting engagement between universities and other sectors, is to maximise opportunities to build the scale and focus of research involving end-users, potentially resulting in direct benefits to the community.

Description

In pursuing this result in 2015–16, the ARC continued to offer a range of funding schemes under the Linkage Programme, which is specifically aimed at supporting research collaboration. Specific mechanisms included:

- a requirement to involve partner organisations that make a contribution (either cash or in-kind or both) to the conduct of the research project
- a preference under the Linkage Infrastructure Equipment and Facilities scheme, for proposals involving multiple organisations. Single-organisation proposals must provide appropriate justification.

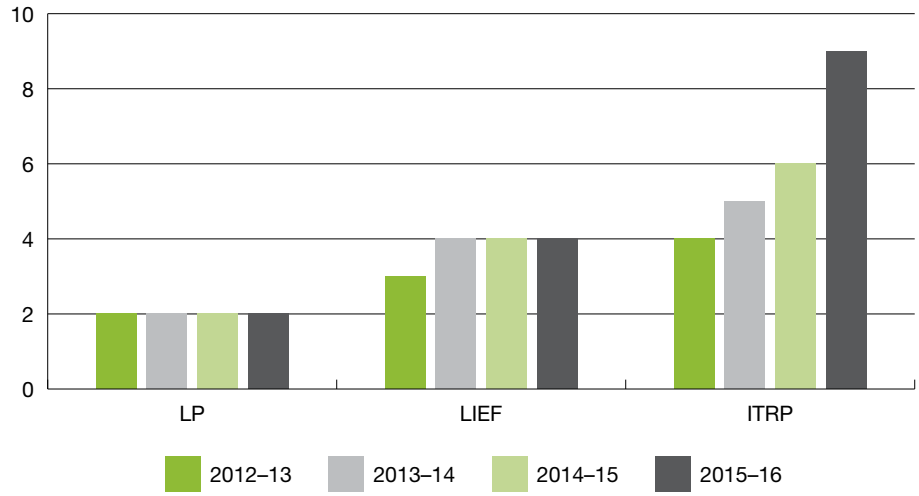
Performance

Measure 9	Average number of partner organisations involved in Linkage research projects	
Source	CP 2015–19 page 26; PBS 2015–16 page 162	
Target	Maintain or increase the average number of partner organisations involved in Linkage research projects (Linkage Programme: Linkage Projects; Linkage Infrastructure, Equipment and Facilities; Industrial Transformation Research Programme)	
Results	**Linkage Projects**: Linkage Projects grants funded in 2015–16 involved an average of two partner organisations per grant (the same as the four-year average)	**Target met**
	Linkage Infrastructure, Equipment and Facilities: Linkage Infrastructure, Equipment and Facilities grants funded in 2015–16 involved an average of four partner organisations per grant (the same as the four-year average)	**Target met**
	Industrial Transformation Research Programme: The ITRP hubs and centres funded in 2015–16 involved an average of nine partner organisations per grant (higher than the four-year average of six partner organisations per grant)	**Target met**

Analysis

The average number of partner organisations involved in Linkage Programme grants is considered to be an indicator of the extent to which the Linkage schemes are encouraging collaboration between university researchers and researchers in other sectors. In 2015–16, results achieved under the Linkage Projects and Linkage Infrastructure, Equipment and Facilities schemes (average of two and four partner organisations respectively) were consistent with results achieved in previous years. Under the Industrial Transformation Research Programme, the average number continued to grow with an average of nine partner organisations recorded. The results exceeded the minimum requirements for all schemes, that is, one Australian partner organisation for proposals funded under the Industrial Transformation Research Programme; one partner organisation under the Linkage Projects scheme; and two or more eligible organisations under the Linkage Infrastructure, Equipment and Facilities scheme, unless it is a single organisation proposal and can demonstrate that collaborative use of the proposed research infrastructure is not practicable.

Figure 2.4: Average number of partner organisations per ARC-funded research project, 2012–13 to 2015–16



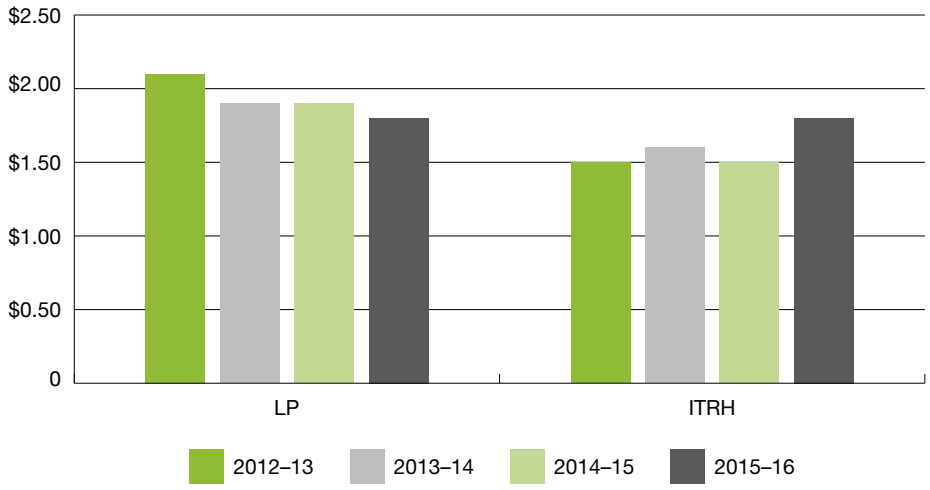
Measure 10	Linkage research projects leverage significant national and international investment from partner organisations (cash and in-kind)	
Source	CP 2015–19 page 26; PBS 2015–16 page 162	
Target	Maintain or increase funding (cash and in-kind) pledged by partner organisations (Linkage Programme: Linkage Projects; Industrial Transformation Research Hubs)	
Results	**Linkage Projects**: Partner organisations pledged $1.8 for every ARC dollar (below the four-year average of $1.90)	**Target not met**
	Industrial Transformation Research Hubs: Partner organisations pledged $1.8 (above the four-year average of $1.6)	**Target met**

Analysis

Under the Linkage Projects and Industrial Transformation Research Hubs schemes, the combined cash and in-kind contributions pledged by partner organisations are required to at least match the funding sought from the ARC. In 2015–16, this requirement was exceeded in both schemes, with every ARC dollar attracting $1.80 from partner organisations under both schemes.

There are a range of variables potentially impacting results for the Linkage Projects scheme including: the move to one round under the Linkage Projects scheme in 2013 and increased participation by industry organisations in the ITRP schemes.

Figure 2.5: Funding pledged by partner organisations, 2012–13 to 2015–16



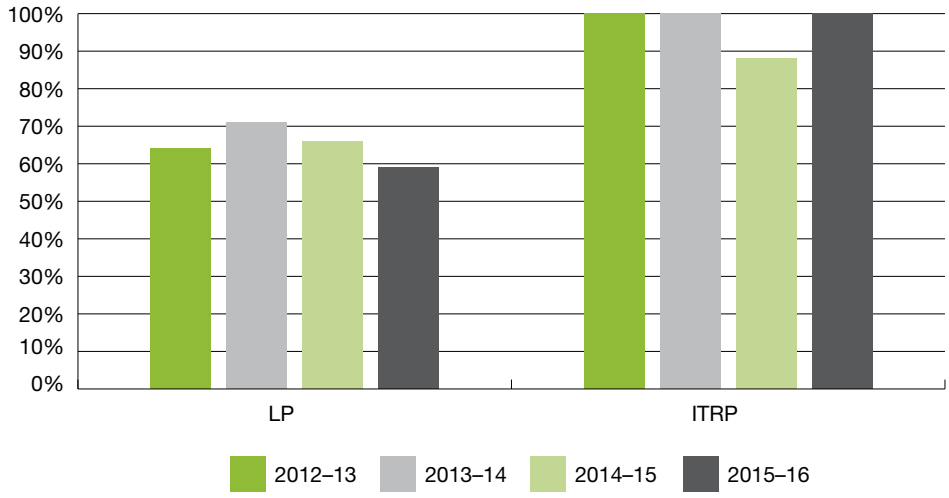
Measure 11	Linkage funding supports research projects that involve collaboration with industry	
Source	CP 2015–19 page 26; PBS 2015–16 page 162	
Target	Maintain or increase the proportion of Linkage research projects that involve collaboration with industry (Linkage Programme: Linkage Projects; Industrial Transformation Research Programme)	
Results	**Linkage Projects**: 59 per cent in 2015–16 (below the four-year average of 65 per cent)	**Target not met**
	Industrial Transformation Research Programme: 100 per cent in 2015–16 (above the four-year average of 97 per cent)	**Target met**

Analysis

Business or industry organisations are an important participant in the Linkage Projects scheme and Industrial Transformation Research Programme.

In 2015–16, participation by industry organisations fell slightly under the Linkage Projects scheme. There are a range of variables potentially in play in this result including: the move to one round under the Linkage Projects scheme in 2013 and increased participation by industry organisations in the ITRP schemes.

Figure 2.6: Proportion of research projects that involve collaboration with industry, 2012–13 to 2015–16



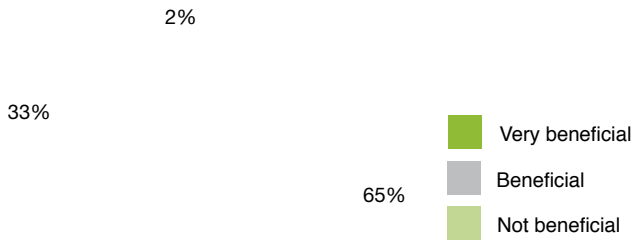
Measure 12	Partner organisations rate the research partnerships supported through Linkage research projects as being beneficial or very beneficial	
Source	CP 2015–19 page 26; PBS 2015–16 page 162	
Target	Greater than 90 per cent of partner organisations rate the research partnerships supported through Linkage research projects as being beneficial or very beneficial (Linkage Programme: Linkage Projects)	
Results	**Linkage Projects:** 98 per cent, compared to 99 per cent and 98 per cent in 2014–15 and 2013–14 respectively	**Target met**

Analysis

A partner organisation's commitment of funding and other resources to a research project indicates an expectation of return from that investment. Feedback from partner organisations analysed during 2015–16 indicated that a vast majority of partners (98 per cent) found that the collaborative research had been either 'very beneficial' or 'beneficial' to their organisation (see Figure 2.7). As indicated by the historical trends, the ARC has consistently received this level of positive feedback from partner organisations about their involvement in the Linkage Projects scheme.

Partner organisations cited a wide range of benefits (including access to research expertise) and a significant proportion (91 per cent) said that the organisation would participate in research projects supported by the scheme again, if the opportunity arose. The main reasons cited for not participating the future included the wind-up of the organisation involved (five instances) and the future unavailability of funding by the organisation (two instances).

Figure 2.7: Proportion of Linkage Projects Partner Organisations that found the experience beneficial



Intended result: Building Australia's research capacity by supporting international collaboration

Description

Research is a global activity with researchers seeking access to the best partners and facilities worldwide. The ARC's aim in supporting international research collaboration is to maximise Australia's contribution to, and benefits from, international research collaborations, partnerships, developments and policy. Benefits include access to ideas and resources.

Activities

In pursuing this result in 2015–16, the ARC:

- identified international travel costs as eligible budget items under most NCGP funding schemes
- identified overseas organisations as eligible partner organisations under the Linkage Programme schemes
- awarded Discovery International Awards under the Discovery Projects scheme to increase opportunities for collaboration between researchers, research teams and/or research centres in Australia and overseas
- continued to foster the cooperative use of international facilities under the Linkage Infrastructure, Equipment and Facilities scheme.

Performance

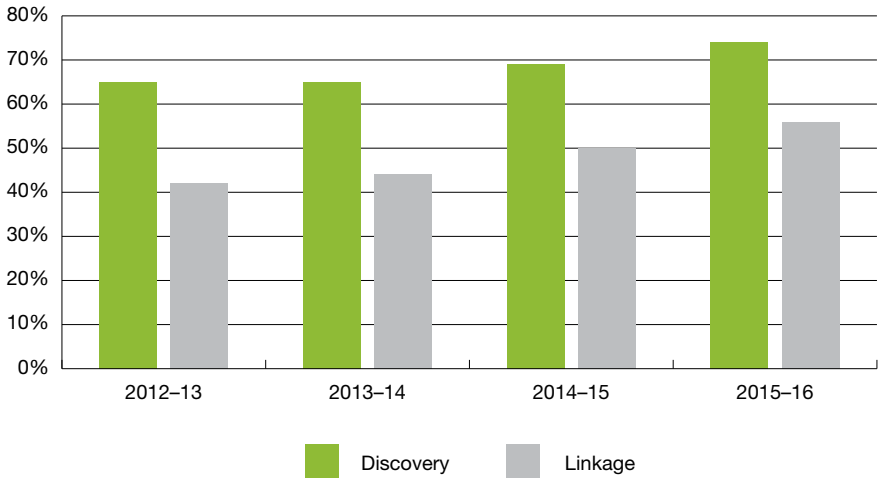
Measure 13	Proportion of research projects involving international collaboration	
Source	CP 2015–19 page 26; PBS 2015–16 pages 160 and 162	
Target	Maintain or increase proportion of research projects involving international collaboration (Discovery and Linkage Programmes)	
Results	**Discovery Programme**: 74 per cent in 2015–16 (above the four-year average of 68 per cent)	**Target met**
	Linkage Programme: 56 per cent in 2015–16 (above the four-year average of 48 per cent)	**Target met**

Analysis

Approximately three quarters of Discovery Programme projects and over half of Linkage Programme projects commencing in 2015–16 indicated that the research would involve international collaboration. In total, approximately 2172 instances of intended international collaboration were recorded, involving over 79 countries. The United States of America was recorded most often as a country of collaboration, followed by the United Kingdom.

The proportion of ARC-funded research projects involving international collaboration has slowly increased under both the Discovery and Linkage Programmes (see Figure 2.8). For the first time in 2015–16, the ARC started collecting data (in a reportable form) on the nature of the international collaborative activities proposed. Analysis of data shows that an overwhelming majority involve substantial activities.

Figure 2.8: Proportion of ARC-funded research projects involving international collaboration, 2012–13 to 2015–16



In addition to the results outlined above:

- almost one third (71/252) of research projects awarded funding under the Linkage Projects scheme involved international organisations. In total 99 international organisations were nominated as Partner Organisations on Linkage Projects grants commencing in 2015–16
- a total of 127 Discovery International Awards were awarded under the Discovery Projects scheme for funding commencing in 2016
- a number of projects awarded funding under the Linkage Infrastructure, Equipment and Facilities scheme involved international collaboration:
  - Australian Membership of International Ocean Discovery Program, the world's largest collaborative research program in earth and ocean sciences
  - equipment for international collaboration in the next-generation gravitational wave detector
  - coherent laser links for space applications to enable continuing leadership and involvement in international space projects.

Intended result: Building Australia's research capacity by supporting research in areas of priority

Description

Through implementation of priority areas, the Government aims to ensure that appropriate levels of public funding are allocated to research that addresses the challenges facing Australia.

Activities

The ARC's aim is to contribute to the Government's agenda of building the nation's capacity to pursue research in identified areas of importance to Australia. In pursuing this result in 2015–15:

- all researchers applying for ARC funding were required to identify whether their research project fell within an area of research priority. While funding is not specifically directed to these areas, most schemes ask assessors to consider whether the research will address or has the potential to address these priority areas
- the ARC only funded research in identified Industrial Transformation Priority areas through the Industrial Transformation Research Programme. In 2015–16 the Industrial Transformation Priority areas included advanced manufacturing; food and agribusiness; oil, gas and energy resources; mining equipment, technology and services; and medical technologies and pharmaceuticals
- the ARC provided ongoing funding for a number of initiatives in priority areas which commenced in previous years including:
  - National ICT Australia
  - National Indigenous Research and Knowledges Network
  - the Special Research Initiative for the Antarctic Gateway
  - the Special Research Initiative for Type 1 Juvenile Diabetes
  - the Special Research Initiative for the Science of Learning
  - the Special Research Initiative for Synchrotron Science
  - the Special Research Initiative for Tropical Health and Medicine
  - Stem Cells Australia.

Performance

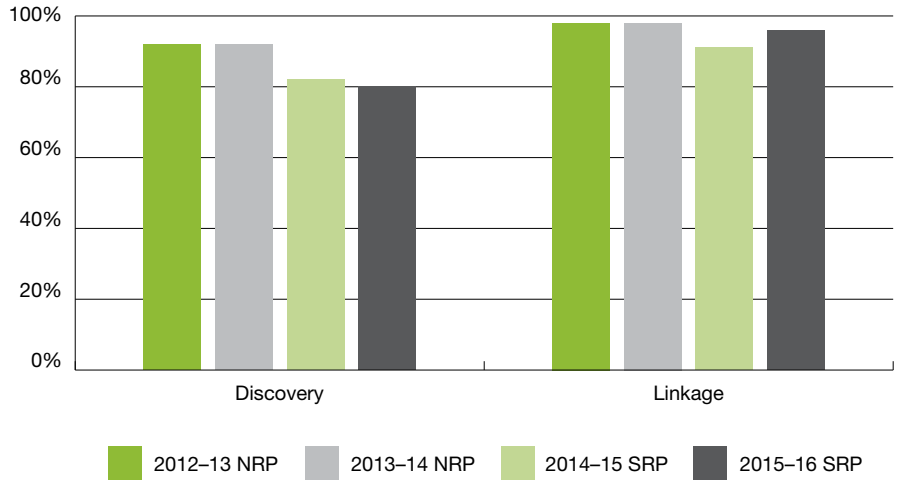
Measure 14	Proportion of NCGP funding awarded to research in areas of priority	
Source	CP 2015–19 page 26; PBS 2015–16 pages 160 and 163	
Target	Maintain or increase the proportion of NCGP funding awarded to research in areas of priority (Discovery and Linkage Programmes)	
Results	**Discovery Programme:** 80 per cent in 2015–16 (compared to the two year average of 81 per cent)	**Target not met**
	Linkage Programme: 96 per cent in 2015–16 (compared to the two year average of 94 per cent)	**Target met**

Analysis

In 2015–16, a significant proportion of new research projects funded under both the Discovery and Linkage Programmes indicated that the research was relevant to one of the Australian Government's priority areas—80 per cent of those awarded under the Discovery Programme and 96 per cent under the Linkage Programme. The Strategic Research Priority (SRP) areas were: living in a changing environment; promoting population health and wellbeing; managing our food and water assets; securing Australia's place in a changing world; and lifting productivity and growth.

Strategic Research Priority areas only came into effect under the NCGP in 2014–15. Prior to that a different set of priorities were in place (National Research Priorities (NRP)) which explains the change in figures recorded between 2013–14 and 2014–15 (see Figure 2.9). The Government announced a new set of priorities–Science and Research Priorities—in May 2015 and the ARC will report against these priorities in 2016–17.

Figure 2.9: Proportion of ARC-funded research projects in areas of priority, 2012–13 to 2015–16



In addition, five research hubs and six training centres were awarded funding under the Industrial Transformation Research Programme. Those hubs and centres indicated that their proposed research programmes were relevant to the Industrial Transformation priority areas of advanced manufacturing (10 instances), food and agriculture (one instance), mining engineering (two instances) and medical technologies (five instances). These centres and hubs will build on the record of the 23 hubs and 16 centres established as a result of previous selection rounds.

Progress was also reported in a number of initiatives in priority areas:

- Together with the NHMRC, the ARC announced the funding outcomes for the joint dementia fellowships, which is part of the Government's $200 million Boosting Dementia Research initiative.
- The Juvenile Diabetes Research Foundation announced the funding outcomes for $14 million (of the $35 million) allocated to the Foundation under the Special Research Initiative for Type 1 Juvenile Diabetes. A total of 51 new grants were awarded to researchers looking for a cure for type 1 juvenile diabetes.
- The Synchrotron reported discoveries made with the assistance of the facility, including solving 'decades-old controversies on how 'friendly fire' of the immune system causes deadly cerebral malaria (24 December 2015).
- Through the Antarctic Gateway Special Research Initiative, the Aurora Australis made a pioneering voyage in 2015 becoming the first ship ever to reach the edge of East Antarctica's fastest thinning glacier—the Totten Glacier.

Intended result: Effective delivery of a high-quality competitive grants programme

Description

Efficient and effective programme delivery supports the achievement of scheme objectives. The ARC's aim is to deliver its programmes as efficiently and effectively as possible.

In pursuing this objective in 2015–16, the ARC:

- pursued best practice peer review processes (including addressing conflicts of interest and appeals process)
- continued to look for ways to streamline electronic processing of proposals
- reviewed NCGP funding rules
- liaised regularly with institutions (including through regular emails to research administrators and information sessions and visits).

Performance

Measure 15	Cost of delivering the NCGP	
Source	CP 2015–19 page 26	
Target	Cost of delivering the NCGP is at an acceptable level compared to other research funding agencies (Discovery and Linkage Programmes)	
Results	This was not measured in 2015–16 in a way that would allow a robust assessment against the target identified.	**Target not measured**

Measure 16	Evidence of stakeholder satisfaction with delivery of the NCGP	
Source	CP 2015–19 page 26	
Target	Greater than 80 per cent of stakeholders are satisfied with the delivery of the Discovery and Linkage Programmes	
Results	This was not measured in 2015–16 in a way that would allow an assessment against the target identified.	**Target not measured**

Analysis

As noted at Measure 15, the ARC did not conduct a detailed analysis of grant administration costs in 2015–16 pending finalisation of the ARC's Performance Framework in 2016–17. The last study, conducted in 2010–11, concluded the ARC was a very efficient organisation that compared favourably to international benchmarking of partners against each of the headline key performance indicators. These included the number of applications administered per FTE and the direct cost of grants administration as a percentage of the value of grants awarded.

Similarly, as noted at Measure 16, the ARC did not undertake any evaluations in 2015–16 that would allow it to report against the target of 80 per cent of stakeholders being satisfied with delivery of the NCGP. While the ARC did not conduct a satisfaction survey, there were a number of stakeholder engagement activities undertaken which indicated a high level of satisfaction including the Research Administrators seminar and requests for feedback on funding rules.

Highlights of the ARC's performance in efficient and effective delivery in 2015–16 included:

- supportive feedback on IT redevelopment (see case study below)
- successful launch of the Final Reports module in RMS including the transition of a significant amount of data to the new system with limited impact for the sector
- the relatively small number of appeals relating to NCGP proposals submitted under the Discovery Projects and Future Fellowships schemes. Of the 11 appeals received, seven appeals were upheld by the NCGP Appeals Committee.

IT developments

The ARC relies heavily on its IT systems in delivering the NCGP. In 2015–16 the ARC completed an extensive redevelopment of functionality to include the complete grants management lifecycle within one system. This initiative transformed the services provided to the research community by the ARC by:

- streamlining payment processes, with a 50 per cent reduction in pay processing time
- delivering a forms system capable of supporting a diverse range of schemes and handling complex validations improving data quality at the time of application
- automating onerous business processes (for example, acceptance of funding agreements and offers)
- delivering technical capability in the building and use of Application Programming Interfaces to enable system to system data sharing
- re-using data from the Australian Business Register and the Australian Bureau of Statistics through the use of web services technology, enabling data re-use and pre-filling of data from a researcher's profile when an applicant is preparing a grant proposal.

RMS supports the efficient and cost-effective delivery of the Discovery and Linkage programmes. Its replacement and expansion to support the full grants management lifecycle is a significant enabler to a small but materially significant entity.

Analysis of the impact of changes on performance

There were no changes in the ARC's purposes, activities, organisational capability or environment that impacted significantly on its performance in delivering Purpose 1: managing research funding schemes.

As noted on page 3, a key development during the year was the announcement that the ARC would be responsible for implementing a continuous application and assessment process under the Linkage Projects scheme from 1 July 2016. The addition of this new responsibility had no impact on the outcomes of the ARC's activities in relation to other funding schemes.

As a result of this change, a new deliverable was identified for the ARC in the Additional Budget Estimates documentation—Grants (including deliverables of continuous application process for Linkage Projects). In preparation for implementation of this process the ARC consulted with stakeholders and made changes to RMS.

CASE STUDY 1: OUTCOMES OF BENEFIT

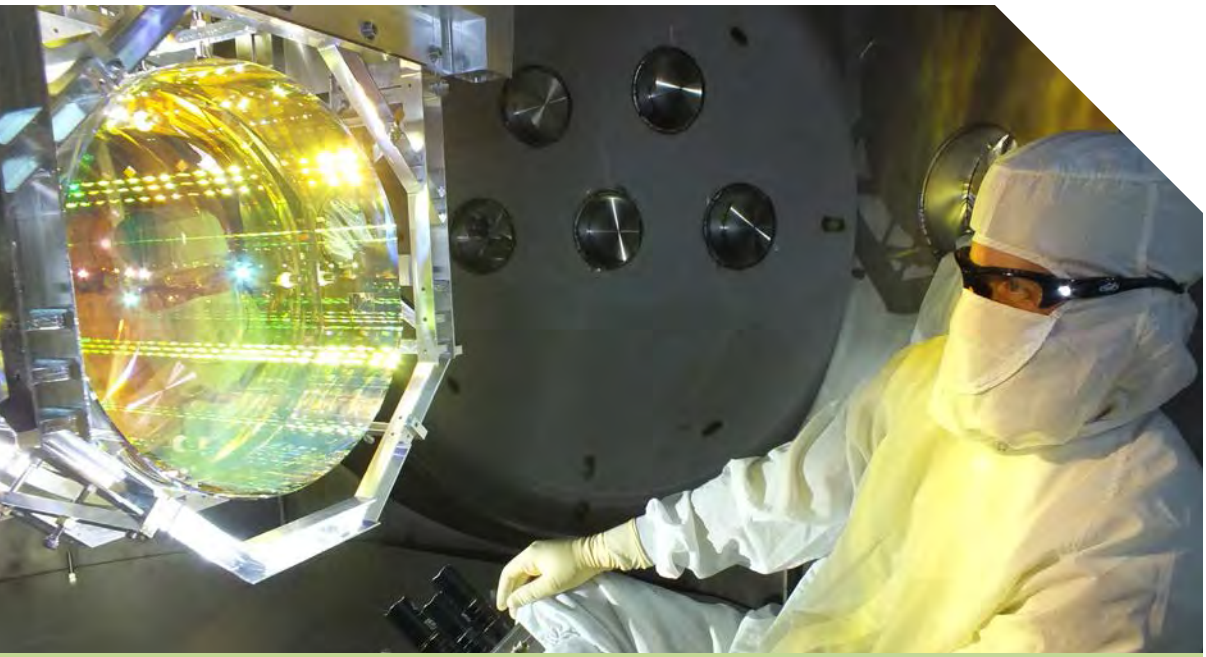
Australian researchers making waves

Two Black Holes merge into one.
Image courtesy of SXS, the Simulating eXtreme Spacetimes (SXS) project (http://www.black-holes.org)

Announced in early 2016, a global effort to detect ripples in the fabric of space-time, known as gravitational waves, came to fruition in when scientists finally confirmed their existence. Theorised by Albert Einstein more than one hundred years ago, efforts to directly prove the existence of gravitational waves have been ongoing for over fifty years. This first observation, caused by the collision of two black holes, marks the birth of gravitational wave astronomy and is a significant boost to the understanding of fundamental physics.

Australian science and technology researchers from multiple scientific streams have made critical contributions to the breakthrough, supported by significant funding from the ARC. Since 2003, the ARC has funded almost 50 individual and collaborative projects across both the Discovery and Linkage Programmes, spanning fundamental theory and techniques in computational modelling and data analysis, through to the development of specialised instrumentation needed to detect the waves.

Since 2009, the ARC has directly supported Australia's participation in the Advanced Laser Interferometer Gravitational-Wave Observatory (Advanced LIGO) project, a key international collaboration led by the U.S. National Science Foundation that developed the ultra-precision detectors and other instruments essential to the discovery. A total of $2.79 million for two Linkage Infrastructure, Equipment and Facilities (LIEF) grants to The Australian National University and The University of Adelaide was provided towards this project. Further LIEF funding to these institutions and the University of Western Australia has enabled Australian researchers to make important contributions to developing the extraordinary sensitivity of the instruments required for the detection, and to the development of the next generation of detectors for gravitational wave astronomy.



Inspecting LIGO's optics for contaminants prior to sealing up the chamber and pumping the vacuum system down, a LIGO optics technician inspects one of LIGO's core optics (mirrors) by illuminating its surface with light at a glancing angle.
Image courtesy of Matt Heintze/Caltech/MIT/LIGO Lab

The existence of gravitational waves was confirmed again in June 2016 with a second detection of gravitational waves, which promises the ability to see the universe in a totally new way and has been described as one of the most important science discoveries of the 21st century.

"Long term support from the ARC was critical in enabling Australian researchers to play such a major role in the opening of this new window on the universe" said Prof David McClelland, leader of Australia's Partnership in Advanced LIGO.

The involvement of Australian research and technology in this discovery reiterates Australia's position at the frontier of science and innovation.

CASE STUDY 2: OUTCOMES OF BENEFIT

Using virtual reality and statistics to save endangered species

Australian Laureate Fellow Professor Kerrie Mengersen from Queensland University of Technology conducting fieldwork for the ARC Jaguar Conservation Project in Peru.
Image courtesy of Vanessa Hunter

A new era of statistical modelling is using virtual reality technology to inform environmental policy and decision making as a result of the work of 2015 Australian Laureate Fellow, Professor Kerrie Mengersen.

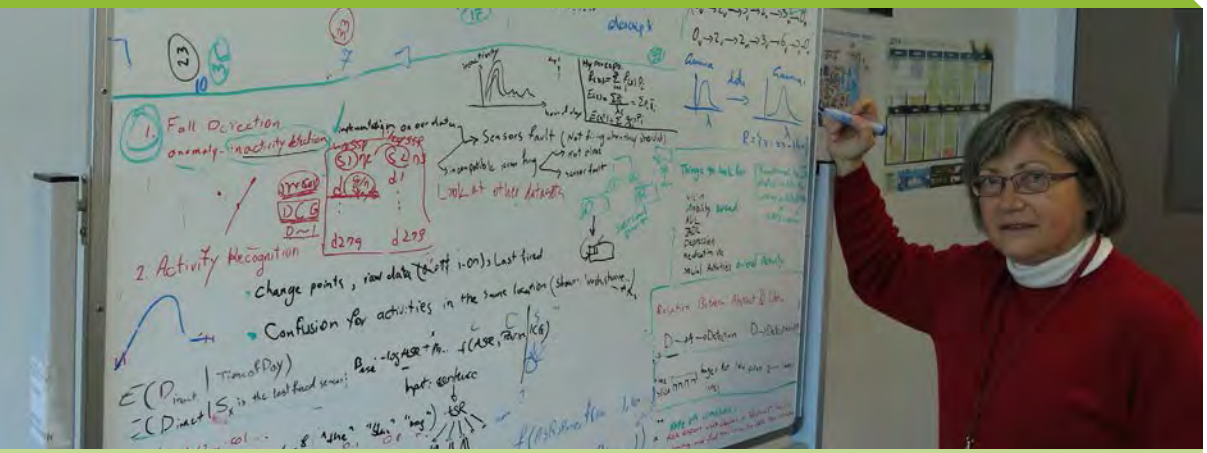
The technique, pioneered by Professor Mengersen and a team from the Queensland University of Technology and the ARC Centre of Excellence for Mathematical and Statistical Frontiers, involves research expeditions to the Amazon and the use of 360-degree cameras to create virtual platforms. The platforms effectively enable wildlife experts from around the world to experience the location as if they were there.

In late 2015, Professor Mengersen led a group into the Peruvian jungle to collect data on jaguars, producing footage from various locations. As a result of the immersive virtual reality method, more detailed information and better quality data was extracted, contributing to improved mathematical and statistical models. The combination of information provided by experts with local knowledge, as well as other data from the field trip, enabled Professor Mengersen to form strong predictive models of the population's behaviour and movement of this elusive threatened species.

A more complex picture and a better understanding of population trends and threats is crucial to understanding not only the animals themselves, but their environment and how they react to pressures such as mining and deforestation. With the cooperation of Peru's government, the findings from Professor Mengersen's research are helping define a jaguar corridor stretching from Mexico, through Central America to Argentina, and can be used to inform decision making in sustainable conservation, tourism and development.

CASE STUDY 3: OUTCOMES OF BENEFIT

Innovation in caring for the elderly



Professor Ingrid Zukerman from Monash University is combining computational models with a range of sensors to assist seniors and caregivers.

Supporting Australia's ageing population, by effectively balancing an independent lifestyle and the availability of assistance when needed, is an increasing challenge to Australian society. A new device, however, is promising to address concerns about the wellbeing of seniors living at home. The 'Super Sensor'–a non-intrusive monitoring device designed to assist seniors and caregivers, and its associated software, provide a technological solution that could revolutionise the aged-care industry.

Professor Ingrid Zukerman and her team from Monash University, together with Dr Masud Moshtaghi from The University of Melbourne, developed a system that combines computational models with a prototype Super Sensor that houses an array of sensors, such as passive infrared motion, light, temperature and vibration sensors. Utilising data obtained from the Super Sensor, the computational models can track and compare patterns of behaviour in order to make an assessment of the health and wellbeing of elderly residents in their own homes.

The computational models can send out alerts to carers and loved ones when potential issues, such prolonged inactivity (for example, due to a fall), are identified. Designed to be affordable and easy to use, the system can complement the services provided by a caregiver by identifying accidents, functional decline or the onset of illness.

Initially supported by a 2010 ARC Linkage Projects grant, Professor Zukerman and her collaborators are improving the technology through a 2015 Linkage Projects grant, and will soon trial the system in hospitals and aged care facilities. With the potential to ease pressure on the aged-care sector by supporting independent living for longer, the research team is hopeful of receiving additional support from the private sector to bring the technology to the wider market.

CASE STUDY 4: OUTCOMES OF BENEFIT

'Unboiling' eggs to fight cancer

Flinders University's Professor Colin Raston has synthesised lidocaine in his Vortex Fluidic Device (VFD). Professor Raston won an Ig Nobel prize for 'unboiling' an egg with the VFD.

In 2015, Professor Colin Raston and his research team were awarded an Ig Nobel Prize for partially 'unboiling' an egg, recognising a scientific achievement that 'made people laugh, then made them think'. When the research team at Flinders University, in collaboration with Professor Greg Weiss at the University of California-Irvine, demonstrated this using a novel device, it unsurprisingly garnered considerable media attention. Beyond the novelty, however, this research has enormous implications for the pharmaceutical industry.

When proteins, such as albumen in eggs, are heated they 'unravel' from their natural conformations and clump together to form a dense substance. With the support of ARC funding, Professor Raston has developed the Vortex Fluidic Device (VFD), a machine that uses mechanical energy in thin films of liquid to reverse this process. By spinning the substance at tremendous speeds, the clumped protein molecules are able to revert to their natural shape.

The VFD has many other applications, from continuous production of biodiesel and the synthesis of drugs, to targeted drug delivery. For example, it has potential to revolutionise the use of drugs recognised by the World Health Organisation as being essential to any basic health system. One of these drugs is carboplatin, a common anti-cancer drug. The VFD has been used to increase the carboplatin's potency, meaning less of the drug is needed, and reducing side effects for patients.

Another drug, Lidocaine, is a high demand anaesthetic which can be made in under an hour following basic instructions using the VFD. This cost-effective process, with minimal generation of waste, means that the drug could be made readily available in developing countries, where the demand for anaesthetic is high, but the facilities to produce it are not available.

Professor Raston plans to sell the VFD to research institutions all around the world, and industry, paving the way for revolutionary changes across many different areas of sciences.

CASE STUDY 5: OUTCOMES OF BENEFIT

Growing opportunities for farmers

University of Tasmania Discovery Early Career Researcher Award researcher Michelle Phillipov is helping farmers access new market opportunities.
Image courtesy of The University of Tasmania

What we eat and how we experience food is undergoing significant change as a result of an intensified media focus on food. That's according to an ARC-funded researcher who has been exploring interactions between the media and food industries as part of a Discovery Early Career Researcher Award (DECRA).

Dr Michelle Phillipov, a 2014 DECRA recipient from the University of Tasmania, is conducting research on 'The New Politics of Food and the Australian Media'. She has been exploring the provenance and ethics of food production and consumption and how media shapes consumer expectations.

According to Dr Phillipov's research, media and popular reality cooking shows are investing food with new meaning and significance, changing the relationship between producer and consumer. Food trends and shifting consumer demand, stimulated by the popularity of cooking reality shows, is creating opportunities for farmers and opening up new markets for food products and experiences.

In particular, Dr Phillipov has been studying the experiences of small food producers who have participated in television programs like MasterChef and Gourmet Farmer. Advice and information on how to engage consumers through media, developed by Dr Phillipov as part of her project, is now helping food producers and farmers create better marketing strategies.

Designed to help others capitalise on the opportunities presented the advice suggests ways that food producers can better promote their businesses to make the most of increased consumer interest in food trends such as seasonal eating, as well as ethical and locally produced food. For small-scale and regional producers involved in the boutique and artisan food sector, adjusting to demand from consumers who are keen to see where their food comes from means a bigger slice of what is now a multi-billion-dollar industry.

CASE STUDY 6: OUTCOMES OF BENEFIT

Biofuel production using grass

The University of Adelaide Discovery Early Career Researcher Award researcher Dr Caitlyn Byrt with some of the sorghum types studied at the Australian Research Council Centre of Excellence in Plant Cell Walls.

Image courtesy of Haiyen Nguyen

With an increased focus on energy security and growing concerns about the impact of fossil fuels on the environment, researchers are looking to alternative sources of energy. But what will power tomorrow's cars?

Research from the ARC Centre of Excellence in Plant Cell Walls at The University of Adelaide suggests that the future of fuel could be found in wild grasses such as a variety of sorghum called Arun—commonly considered a weed and found along roadsides in Northern Australia.

The Centre has found that Arun has massive potential for biofuel production. After testing both cultivated and wild varieties of sorghum, the team found that using Arun yielded significantly more glucose than other varieties. A theoretical calculation of ethanol yields for Arun proved to be more than 10,000 litres of bioethanol per hectare each year from stem tissues alone, a considerable increase on other sources of ethanol.

The researchers say that a large pool of untapped diversity exists in other species and subspecies of sorghum, opening new avenues of research to generate sorghum lines optimised for biofuel production.

Arcadia Biosciences, a US-based agricultural technology company and partner in the research, is working with the Centre to commercialise these findings and to explore the use of Arun as an alternative sustainable energy source, both in Australia and overseas.

CASE STUDY 7: OUTCOMES OF BENEFIT

Understanding insecticide resistance

Associate Professor Colin Jackson (left), and PhD student Ms Elena Sugrue (right), discussing the outcome of an experiment and analyzing the growth of bacteria expressing an engineered insect protein for detoxification of pesticides at The Australian National University.
Image courtesy of Stuart Hay

Synthetically-designed pesticides have been central to booming agricultural productivity over the last century. However, productivity has been threatened in recent times by increasing levels of pesticide resistance amongst insect populations and by the detrimental implications of pesticide misuse to environmental and human health.

Associate Professor Colin Jackson and his team at The Australian National University are undertaking pioneering research into insects' resistance to a commonly used class of insecticides known as organophosphates. Their work engineering proteins will help manufacture chemicals in a more environmentally friendly way.

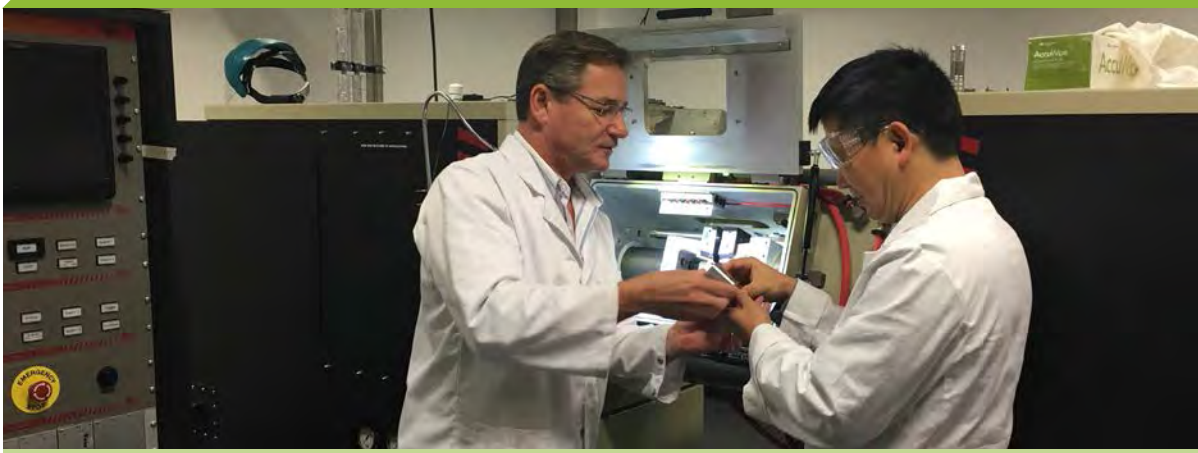
Associate Professor Jackson, who was awarded a Future Fellowship in 2014, is determining the molecular structure of proteins responsible for insecticide resistance by simulating the evolutionary processes of resistance in a laboratory setting. Using this information, he aims to develop new pesticides to combat resistance, potentially saving the agricultural industry millions of dollars each year by preventing flystrike in livestock, reducing crop infestation and curbing the spread of insect-borne diseases.

As well as being toxic to insects, organophosphates are highly toxic to humans. Associate Professor Jackson is also applying his research findings to developing an effective antidote to human organophosphate poisoning. He hopes that by exploiting the newly evolved proteins as biosensors, decontamination agents and poisoning antidotes, these problematic proteins could eventually save lives.

In recognition of his chemical science research, Associate Professor Jackson received the Royal Australian Chemical Institute's 2015 Rennie Memorial Medal and was named the ACT Scientist of the Year.

CASE STUDY 8: OUTCOMES OF BENEFIT

A new ultra-light metal—the key to reducing emissions



Professor Michael Ferry (left) and Dr Martin Xu (right) carrying out thermomechanical testing of the MgLi alloy using the state-of-the-art ARC-LIEF funded Gleeble 3500 Thermal and Mechanical Simulator at The University of New South Wales.

Image courtesy of The University of New South Wales

Every year, the Australian transport sector produces around 90 million tonnes of greenhouse gas, representing a significant percentage of our annual greenhouse gas emissions. The great majority of these emissions come from road transport or aviation.

An international team, led by Professor Michael Ferry of The University of New South Wales, has developed a lightweight alloy addressing this problem. This novel material is strong, corrosion resistant and incredibly lightweight. Its use could reduce the weight of cars, trucks and aeroplanes, increasing fuel efficiency and potentially reducing greenhouse gas emissions from the transport sector.

Professor Ferry's research has been supported by the ARC through various schemes of the Discovery and Linkage Programmes. As with many scientific discoveries, the alloy's unique properties can be attributed to a chance observation when Professor Ferry's team noticed a sample sitting inert in a beaker of water.

The magnesium-lithium alloy, dubbed 'stainless magnesium', is 30 per cent lighter than magnesium and 50 per cent lighter than aluminium. Despite its ultra-lightness, the alloy is uniquely robust and forms a natural thin film of lithium carbonate upon exposure to air, preventing corrosion. Even when scratched off, the protective layer reforms naturally, providing a uniform, impervious barrier to irreversible corrosive damage.

Professor Ferry is now using the Australian Synchrotron to investigate the molecular composition of the metal and the protective film, with a view to commercialising the new alloy.

CASE STUDY 9: OUTCOMES OF BENEFIT

Opera in the digital age

3D scenography for Victorian Opera's 2015: The Flying Dutchman
Image courtesy of Deakin Motion.Lab

Opera has always had a steadfast community of enthusiasts and now the work of Professor Kim Vincs, Director of Deakin University's Motion Lab, is capturing new audiences through the use of digital technology.

Professor Vincs partnered with Victorian Opera in 2014 to study the potential impact of virtual scenography for touring performing arts companies. The project, funded by a Linkage Projects grant, draws on the technology used in video games to create dynamic, three-dimensional digital sets and characters that are projected on stage during live performances.

Large-scale set production in opera, ballet and theatre incurs significant costs and logistical difficulties, making it difficult to perform outside of traditional, metropolitan environments. The introduction of virtual scenography will enable touring companies to perform in previously inaccessible rural and regional areas.

In 2015, Professor Vincs' research resulted in 3D stereoscopic imagery—images with spatial information that create depth to trick the brain into seeing 3D imagery—which was incorporated in the Victorian Opera's production of *The Flying Dutchman* in Melbourne. Complete with virtual scenery and digital avatars based on motion-captured human action, this world first production received excellent reviews and was a 2015 finalist in the Unite Awards and Green Room Awards.

"Today, computer-generated imagery and interactive technologies are something that we are comfortable with, they're a part of how we think. This project is about translating that into theatre," says Professor Vincs.

She hopes that digital scenography will improve affordability, artistic experience and rural and regional access for professional artistic productions, bringing the performing arts to a wider and more diverse audience.

CASE STUDY 10: OUTCOMES OF BENEFIT

Converting carbon dioxide into clean energy

Professor Ajayan Vinu and his research group at The University of South Australia.
Image courtesy of The University of South Australia

Decreasing levels of atmospheric carbon dioxide and developing clean energy sources are two important research priorities in Australia's response to climate change. Professor Ajayan Vinu, from the University of South Australia, is tackling both priorities.

Supported by a 2010 ARC Future Fellowship, Professor Vinu gained global recognition for his pioneering work in the development of nanoporous materials that are capable of capturing carbon dioxide from the atmosphere and converting it into a clean energy source.

Professor Vinu discovered that the chemical properties of carbon nitride, are ideal for capturing carbon dioxide molecules. This material has a semiconducting framework and ordered pores, supporting the conversion of carbon dioxide into a clean fuel, methanol with the help of sunlight and water.

"Not only does this material present an effective method for cleaning up the environment, it offers a clean fuel source that will lower our carbon dioxide emissions going into the future," said Professor Vinu.

Professor Vinu was also awarded a 2015 Discovery Projects grant to further his research into the development of clean energy technologies. The Future Fellowship also helped him acquire funding ($1.7 million) from Saudi Arabia Basic Industries Corporation, a multibillion dollar international chemical company, for a three-year research project that is focused on the utilisation of carbon dioxide into value added products using nanoporous catalytic materials. Professor Vinu, Professor of Nanomaterials at the Future Industries Institute, is taking an interdisciplinary approach, in collaboration with industry, to translate his work on nanoporous materials into real products and benefits.

CASE STUDY 11: OUTCOMES OF BENEFIT

Helium atoms help form high resolution images

The University of Newcastle's Professor Paul Dastoor with the breakthrough SHeM (Scanning Helium Microscope).
Image courtesy of Murray McKean

In 1625, Federico Cesi and Francesco Stelluti revolutionised the scientific world when they published their observations of honey bee anatomy as seen through a newly invented instrument—the optical microscope. Almost 400 years later, Professor Paul Dastoor and his team from The University of Newcastle, funded through the Linkage Infrastructure, Equipment and Facilities scheme, are again opening up scientific windows with a prototype scanning helium microscope (SHeM). The first high-resolution photos from the microscope were published in the journal *Nature* and fittingly revealed, among other things, the fine details of a honey bee.

Existing microscopes utilise energetic beams of particles or light that can damage or alter delicate materials. SHeM, however, uses a beam of extraordinarily low-energy neutral helium atoms to form images, enabling scientists to study a range of materials without disturbing them. After 20 years in the making, the prototype has been hailed as a scientific game changer, providing high resolution images without damage, thus making microscopy more accessible to a wider range of delicate materials.

Professor Dastoor believes that enormous scientific advances ensue every time a new microscope is developed. New insight on structures at a microscopic level open up the potential for practical applications in the fabrication of new materials, structures and devices. These developments could lead to anything from stealth technology to advances in solar energy or information technology.

CASE STUDY 12: OUTCOMES OF BENEFIT

New discovery safely removes Mercury from soil and water

Flinders University researchers Dr Justin Chalker (right) and Max Worthington (left) examine their mercury-binding polymer, made entirely from industrial waste.
Image courtesy of Ashton Claridge, Flinders University

What started as a research project to make a new type of polymer from easily available materials, has resulted in the development of a material that is made from two waste products and can permanently remove the toxic metal mercury from soil and water.

Dr Justin Chalker, a Discovery Early Career Researcher Award recipient, and his team at The Flinders University of South Australia found that while it was a simple process to make a polymer using sulphur—a widely available waste product from the petroleum industry—the end result was brittle and fell apart easily. After experimenting with various molecules that would react with sulphur, the team discovered that limonene, the main component of orange oil and a waste product of the citrus industry, could be transformed to sulphur-limonene polysulphide (SLP), which can be made into various shapes and easily stored.

With its high sulphur content, the team anticipated that SLP would bind with certain metals such as mercury, which it did. To add to the success, researchers found that the dark red polymer turned bright yellow when it absorbed mercury, indicating the presence of mercury in an environment. After contact with SLP, mercury becomes permanently bound to it and can be safely removed and stored. The polymer can remove over 50 per cent of mercury found in water after a single treatment.

SLP is non-toxic, a critical benefit that enables it to be used directly in natural ecosystems. The outcome of Dr Chalker's findings is a product that can be utilised to remove mercury from groundwater and soil, in large-scale toxic waste clean-up and in water filters to provide safe drinking water world-wide.

CASE STUDY 13: OUTCOMES OF BENEFIT

Culture, language and identity

Left to Right: Elizabeth Ellis, Jennifer Green, Jane Simpson, Inge Kral, Natalie O'Toole, Alexandra Grant.

Language is intrinsically linked to indigenous peoples' way of life, culture and identity underpinning roles, responsibilities and obligations in relation to one another as well as being rich repositories of history, information, and stories.

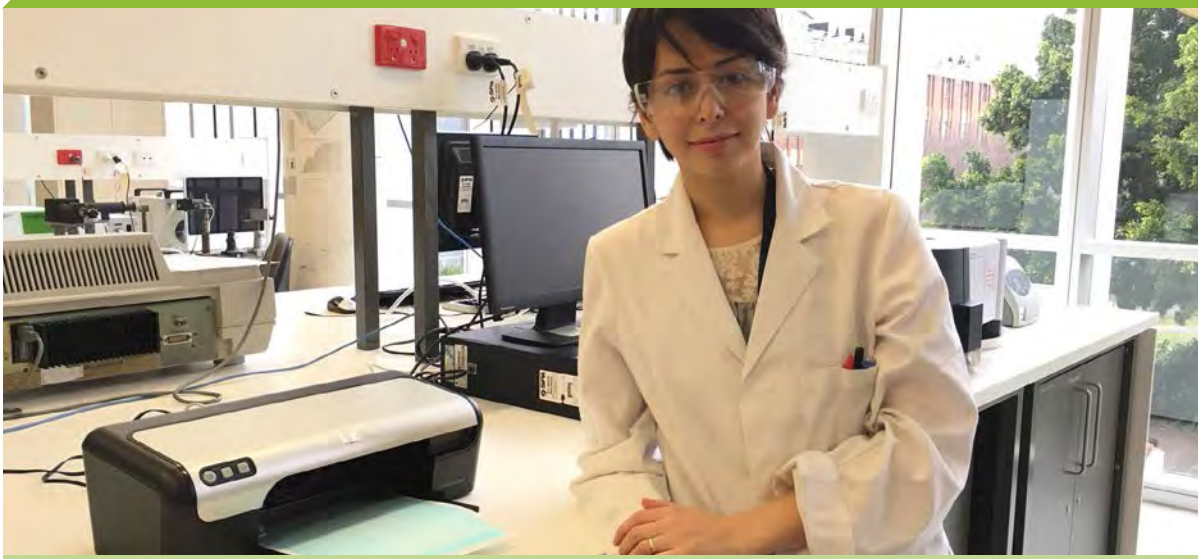
Elizabeth Marrkilyi Ellis, a Ngaatjatjarra woman from Tjukurla community in Western Australia, is working with team members Jane Simpson and Inge Kral at The Australian National University and Jennifer Green at The University of Melbourne (and research assistants Alexandra Grant, ANU and Natalie O'Toole a young Pitjantjatjara trainee from the Ngaanyatjarra Lands), to document and analyse endangered verbal art forms of the Ngaanyatjarra and Ngaatjatjarra people of the Western Desert as part of a project funded through the Discovery Indigenous scheme. Ms Ellis is a Discovery Australian Aboriginal and Torres Strait Islander Award recipient.

An educator, interpreter and linguist who speaks several dialects of Western Desert languages, Ms Ellis' insight into the intricacies, subtle non-verbal cues and connotations of communication has been essential in capturing, analysing and preserving the languages. This includes storytelling, sign language and the special speech styles used to mark occasions and life transitions. According to Ms Ellis, preserving the stories and knowledge embedded within the languages can help change people's perceptions of their lives and empower both Indigenous and non-Indigenous communities alike. "You learn to respect other peoples, you learn to respect other people's culture and you learn to respect other people's world views".

Ngaanyatjarra and Ngaatjatjarra are still spoken by children, and Ms Ellis and her colleagues hope that these children will soon be able to discuss, analyse and master the subtler endangered aspects of these languages, in school and out of school. This will help ensure that the knowledge and culture these languages represent is not lost to future generations.

CASE STUDY 14: OUTCOMES OF BENEFIT

Printing sensors to monitor sun exposure



PhD candidate Parisa Khiabani holding the low-cost paper based sensor developed by Scientia Professor Justin Gooding and his team at The University of New south Wales.
Image courtesy of Mehran Bolourian Kashi

Australians love a sunburnt country, but sunburnt skin is another matter! Sunburn is a leading cause of skin cancer, one of the most commonly diagnosed cancers in Australia. Professor Justin Gooding and his team from the ARC Centre of Excellence in Convergent Bio-Nano Science and Technology have developed a new sensor for monitoring sun exposure that could save lives.

The sensor is prepared using an inkjet printer and paper, along with non-toxic titanium dioxide (a mineral found in cosmetics such as sunscreen), polyvinylpyrrolidone (a binding agent found in cosmetics) and food dye.

Sun exposure that does not result in burning can still cause damage to skin cells and increase the long-term risk of developing skin cancer. The sensor provides feedback on levels of sun exposure and has the potential to become an important educational tool to inform users of their level of UV exposure. When enough UV radiation hits the sensor, titanium dioxide causes the dye to change colour providing a visual indication that alerts the wearer to apply more sunscreen or to seek shade.

Unlike existing UV sensors, the product can be calibrated to take into account different skin tones and the SPF of sunscreens that are applied to the skin.

According to the researchers, the technique is inexpensive, easy to use and easy to fabricate. Intelligent innovation such as the sun exposure sensor, when incorporated into wearable technology or as a stand-alone product, could contribute to educating users to be sun smart.

CASE STUDY 15: OUTCOMES OF BENEFIT

Basin modelling to boost Australian industries

Professor Dietmar Müller and his colleagues are using big data to create models of sedimentary basins.
Image courtesy of Doug Thost

Sedimentary basins are vital for Australian industry energy resources and can reveal the history of Earth's sea levels, climate and surface topography. Sedimentary basins contain multi-layered, permeable rocks and are being increasingly relied upon by industry to capture oil, gas, geothermal energy and ground water.

Previous approaches to analysing sedimentary basins have been based on two-dimensional methods, but increasing resource competition has called for increased sophistication in resource management. The ARC Industrial Transformation Research Hub for Basin Geodynamics and Evolution of Sedimentary Systems, led by Professor Dietmar Müller from The University of Sydney, is using complex computer systems to create five-dimensional models of sedimentary basins. This will have enormous implications for industry, extending visibility to complex, inaccessible remote and deep exploration targets.

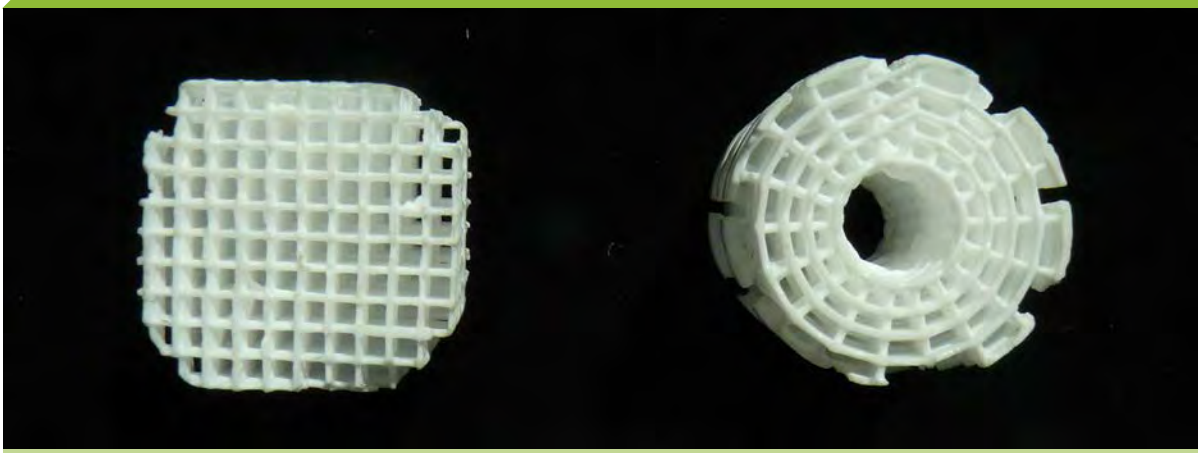
The project draws on a number of data sets to create these five-dimensional models, using space and time with uncertainty estimates that combine the evolution of mantle flow, crustal deformation, erosion and sedimentary processes to achieve a quantum leap in basin modelling. The Hub is using the models to research the ways in which the earth's surface and deep earth processes interact to form sedimentary basins and other geo-physical phenomena.

Improved understanding of the diversity of geological processes will cultivate new methods of basin exploration and management. Professor Müller said the project will highlight what resources might be found in particular basins in remote areas of Australia, providing the mining, exploration and energy sectors with an 'exploration geodynamics toolbox'.

This technology, fusing Big Data with Basin Models through space and time, has built on over ten years of software development and global research leadership of the EarthByte Group and their partners, based at The University of Sydney School of Gesociences. The new approach, some of the first of its kind globally, addresses a variety of issues in the context of basin structure and evolution for sustainable earth resource extraction and management.

CASE STUDY 16: OUTCOMES OF BENEFIT

3D printing revolutionising bone replacement



3D printed synthetic scaffolds for skeletal tissue regeneration developed by Professor Hala Zreiqat of The University of Sydney.

The demand for effective and affordable bone replacement is increasing with Australia's ageing population. Metal implants are expensive, prone to complications and sometimes need replacing.

A team at The University of Sydney, funded by the Linkage Projects scheme and led by Professor Hala Zreiqat, has partnered with a prosthesis manufacturer to develop a revolutionary bioceramic material used to treat large bone defects resulting from accidents, injury or disease. The team is using computational modelling and 3D printing to create synthetic implants that will fit exactly within the bone defect.

The synthetic bone material mimics the highly porous nature of natural bone, allowing for the penetration of blood and nutrients. It is 100 times stronger than other synthetic materials used in the field that are often not strong enough to withstand high pressure and loading.

Unlike other implants, the material is not a permanent replacement; rather, it serves as a scaffold for the regeneration of new bone. The composition of the material has been carefully designed, incorporating trace elements that are essential for bone formation.

Professor Zreiqat said "the material stimulates natural bone growth from both sides of the defect, without the introduction of cells or biological agents. As the bone grows, the material dissolves. What you're left with is strong, natural bone".

Successful trials have demonstrated remarkable bone regrowth with no apparent side effects. Importantly, the results so far show that the material is not rejected from the body. Professor Zreiqat's discovery will replace the requirements for bone grafts and will be commercially available within 5 years.

2.3 ANNUAL PERFORMANCE STATEMENT: PURPOSE 2

Purpose

Measuring research excellence (Outcome 1, Programme 1.3)

Description

Excellence in Research for Australia (ERA) assesses research quality by research discipline at Australian higher education institutions. Evaluated against international benchmarks, ERA identifies excellence across the full spectrum of research activities giving a rating between five, well above world standard, and one being well below world standard. ERA aims to improve Australia's research capacity and inform government policy.

In 2015–16, the ARC commenced developing a new engagement and impact assessment framework that will run in conjunction with ERA and assess the engagement of university researchers with end-users, and show how universities are translating their research into economic, social, environmental and other impacts.

Together the frameworks:

- provide a unique, evidence-based resource to inform Australian government research policy and the strategic direction of higher education institutions
- encourage researchers to produce high-quality and impactful research with real world benefits.

Highlights of delivery

The deliverables for ERA, as identified in the *Portfolio Budget Statements* (PBS) *2015–16* are the ERA 2015 evaluation, ERA 2015 National Report and strategic policy advice on research matters relating to the measurement of research quality (PBS, page 165).

In 2015–16, the ARC:

- completed the ERA 2015 evaluation process and published *Statement of Australian University Research 2015–16, Volume 1 ERA National Report*
- completed extensive outreach visits to universities to discuss their ERA 2015 outcomes and obtain their feedback on the process
- undertook a range of evaluation-related policy development activities (see Section 2.4 for further information).

Results

Intended result: Outcomes of benefit to Australia

Description

Improvements in research quality lead to a better return on investment in research, and improve the social rate of return of research (*Benefits Realisation Review of Excellence in Research for Australia*, September 2013, ACIL Allen Consulting). The ARC's aim is to ensure these outcomes can be realised for Australia through the conduct of a best practice evaluation of the quality of research at Australian higher education institutions.

Performance

Measure 1	Evidence that ERA improves the research performance of eligible Australian higher education institutions	
Source	CP 2015–19 page 27; PBS 2015–16 page 165	
Target	The impact of ERA is demonstrated through analysis of Australian higher education research performance	
Results	The outcomes of ERA 2015 showed that the quality of research conducted by eligible Australian higher education institutions had improved since the previous evaluation.	**Target met**

Analysis

The results of ERA 2015 provided evidence that ERA is improving the research performance of eligible Australian higher education institutions.

To date, the ARC has conducted three ERA evaluations–in 2010, 2012, and 2015. The ERA 2015 National Report shows that overall the quality of research conducted by eligible Australian higher education institutions has improved, reflecting the important role that ERA plays in focussing universities on research quality.

The unit of evaluation in ERA is the discipline, defined by the Australian and New Zealand Standard Research Classification, at the broad field and specific discipline levels. Of the Units of Evaluation (UoEs) assessed in both ERA 2015 and the previous round, ERA 2012, 56 percent of these maintained the same rating, while 29 per cent improved their rating by one. The ERA results show an extraordinary breadth of outstanding research performance in Australia.

There was also steady growth in Australia's university research activity between the ERA 2012 and ERA 2015 rounds, including increases in:

- the total number of assessed UoEs, up six per cent to 2460
- the number of research outputs submitted, up five per cent to 432,747
- the number of research staff submitted, up 11 per cent to 67,579
- total number of patents, up 20 per cent to 936.

ERA also helps identify areas of particular research strength. A wide variety of disciplines were represented in these national strengths in the 2015 evaluation—from basic sciences, engineering, to the humanities—including pure and applied mathematics; astronomical and space sciences; macromolecular and material chemistry; soil sciences; plant biology; civil engineering; clinical sciences; nursing; cultural studies; historical studies; philosophy and law. A graphic of the ERA 2015 outcomes released at the same time as the ERA 2015 National Report is provided in Figure 2.10.

Measure 2	Evidence that ERA improves strategic planning at eligible Australian higher education institutions	
Source	CP 2015–19 page 27; PBS 2015–16 page 165	
Target	Majority of higher education institutions report that ERA data and results are used to assist their strategic planning	
Results	A survey of the 41 ERA participating universities revealed that the majority of institutions referenced ERA in their strategic planning documents.	**Target met**

Analysis

A survey of university websites provided evidence that ERA is informing the strategic planning at eligible Australian higher education institutions.

The survey of the websites of the 41 ERA participating universities revealed that the majority (approximately 85 per cent) of institutions referenced ERA in their strategic planning documents and in their annual report of performance, while more than 90 per cent made references to ERA and their performance in the 2015 ERA round on their website.

One of the aims of ERA is to improve Australia's research capacity and it is evident that Australian universities are using ERA data to support their strategic planning activities. ERA results are routinely used in universities' internal reporting and planning documents (such as annual reports and strategic plans) and the promotional material of universities frequently emphasise ERA outcomes as an indicator of current performance and/or to set targets in relation to future performance. These documents compare performance relative to both international and national benchmarks. They demonstrate that Australian universities are using ERA data to:

- build on existing and emerging research strengths
- address weaknesses and/or gaps in their research capacity
- identify opportunities for cross disciplinary research and collaboration
- benchmark performance against national strengths and weaknesses
- develop capacity in areas of strategic priority to their institutional missions, including aligning capacity with undergraduate teaching profile, research training load, and the concerns of local communities and other key stakeholders.

Measure 3	Evidence that ERA positively informs Australian government policy	
Source	CP 2015–19 page 27; PBS 2015–16 page 165	
Target	At least two case studies per year	
Results	Three case-studies are provided at the end of this section. The case studies relate to the Australian Government's Science and Research Priorities, the Australian Government's *National Strategy for International Education* and the Australian Academy of Science's *Decadal Plan for Chemistry.*	**Target met**

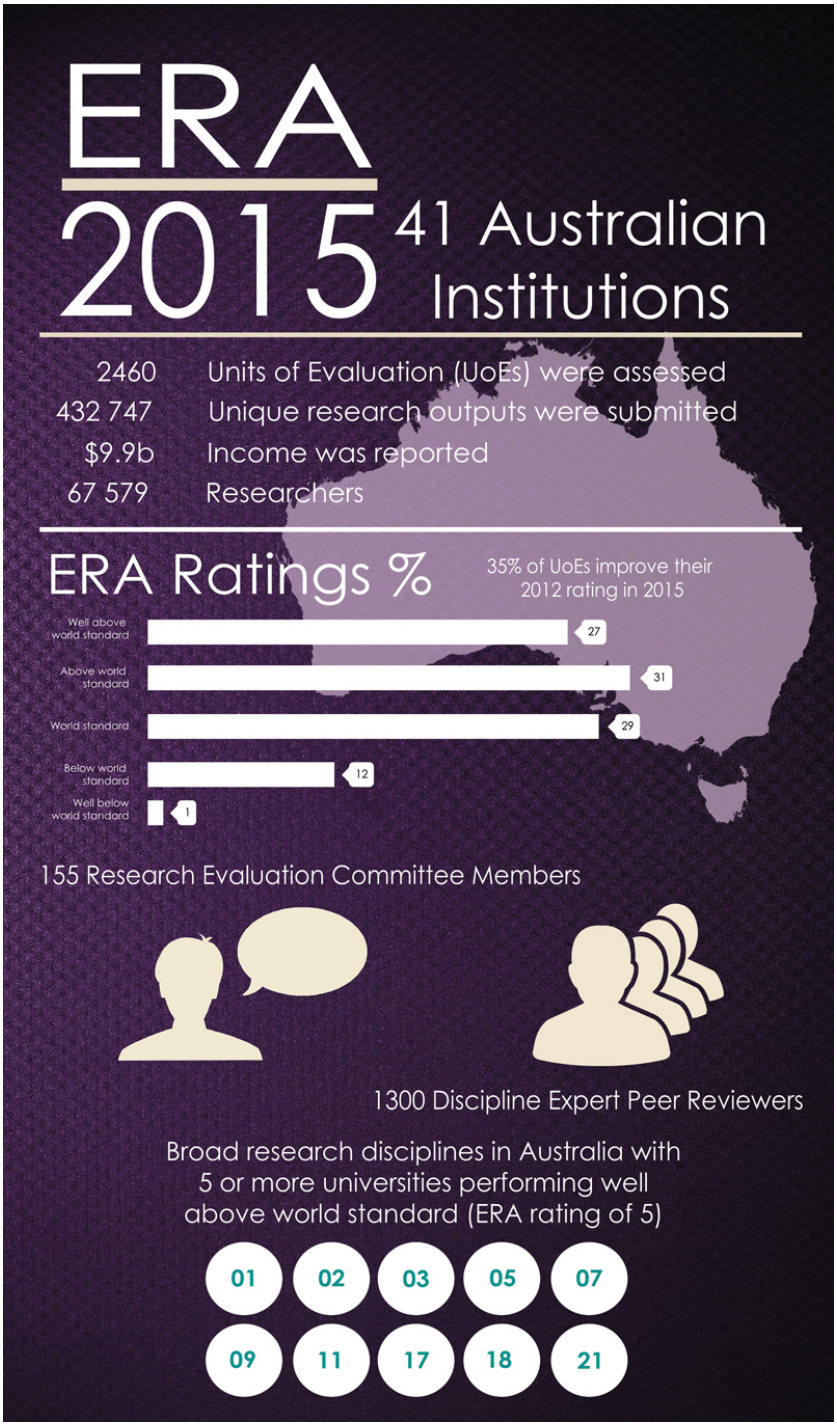
Analysis

The three rounds of ERA have established a data collection that spans over a decade of the research activity and performance of Australia's universities. The dataset is a unique and valuable resource for a range of stakeholders. The ARC regularly responds to requests for information about the nature, extent and location of research strengths in particular disciplines from individual researchers, postgraduates, government agencies and entrepreneurs.

ERA has a range of broader impacts from assessing the quality of Australian university research in all academic disciplines. It is also designed to have real effects, including to:

- set national and institutional performance targets by benchmarking against the rest of the country and the world
- give industry, students and academics real data to inform their decisions about postgraduate options, research collaboration and job opportunities
- build incentives that drive research performance through resource allocation mechanisms
- align research training with areas of both institutional and national strength
- improve our understanding of our innovation inputs through improved data collection, monitoring and review.

Figure 2.10: ERA 2015 outcomes



Broad research disciplines: 01 (Mathematical Sciences), 02 (Physical Sciences), 03 (Chemical Sciences), 05 (Environmental Sciences), 07 (Agricultural and Veterinary Sciences), 09 (Engineering), 11 (Medical and Health Sciences), 17 Psychology and Cognitive Sciences), 18 (Law and Legal Studies), 21 (History and Archaeology)

Intended result: Deliver high-quality evaluation

Description

Conduct of a high-quality (efficient and effective) evaluation process helps ensure that stakeholders can have confidence in the results of the process. The ARC aims to ensure that the ERA process incorporates all elements of best practice evaluations.

Performance

Measure 4	**Evidence that the ERA framework remains relevant and best practice**	
Source	CP 2015–19 page 27; PBS 2015–16 page 165	
Target	Feedback received demonstrates confidence in ERA framework; ERA compares well to equivalent research evaluation exercises internationally	
Results	Feedback received through post-ERA 2015 reviews indicated a high level of sector satisfaction with the methodology. ERA is a uniquely comprehensive collection with data submissions covering all eligible researchers and their research outputs. Other evaluations undertaken around the world are selective exercises.	**Target met**
Measure 5	**Evidence that the ERA National Reports provide assurance of the excellence of research conducted in Australia**	
Source	CP 2015–19 page 27; PBS 2015–16 page 165	
Target	Stakeholders are satisfied with the assurance provided by ERA National Reports	
Results	Feedback received through post-ERA 2015 reviews indicated a high level of sector satisfaction with the outcomes.	**Target met**

Analysis

Feedback received through post-ERA 2015 reviews indicated a high level of sector satisfaction with the ERA methodology and outcomes.

To prepare for ERA 2015, the ARC built on the methods used in ERA 2010 and ERA 2012. A key principle underpinning all three evaluations was the consistent application of the framework to allow comparison of the results from one round with the previous rounds. To that end the ARC:

- maintained the length of the reference periods applied to research outputs and other indicators
- used the same key data and evaluation methodologies.

At the same time, possible improvements were identified following sector consultation and further internal analysis. Changes implemented in the conduct of ERA 2015 included:

- requesting gender data (not for evaluation)
- open access repository (not for evaluation)
- requiring that peer review research outputs must be in an ERA repository
- tightening eligibility requirements for staff engaged at less than 0.4 full-time equivalent (publication association required)
- a request to nominate outputs for peer review.

The ARC visited all participants in ERA 2015 to provide information on the outcomes of the evaluation. The visits provided an opportunity to engage with universities to discuss the results as well as to seek feedback on the process.

Analysis of the impact of changes on performance

There were no changes in the ARC's purposes, activities, organisational capability or environment that impacted on its performance in delivering Purpose 2: Measuring research excellence.

As noted on page 3, a key development during the year was the announcement that the ARC would be responsible for the development and conduct of an engagement and impact assessment to be run concurrently with ERA 2018. The addition of this new responsibility had no impact on 2015–16 outcomes of the ARC activities in relation to ERA.

The ARC will receive $9.4 million over four years from 2015–16 to establish the new system to assess the engagement of university researchers with end users, and to measure the commercial, economic, social and other impacts of research. As a result of this change, two new deliverables were identified for the ARC in the Additional Budget Estimates documentation—'consultation and development of impact and engagement exercise', and 'strategic policy advice on broad research measures relating to measures of research quality and impact'. During 2015–16, the ARC:

- helped to establish the Engagement and Impact Steering Committee, Technical Working Group and Performance and Incentives Working Group to assist with the development of the engagement and impact assessment framework
- consulted with industry, other end-users of research, and Australian universities regarding the development of the engagement and impact assessment framework
- developed key principles for the engagement and impact assessment framework.

CASE STUDY 1: OUTCOMES OF BENEFIT

Informed by ERA: Australian Government's Science and Research Priorities

ERA data contributed to the development of Australia's Science and Research Priorities. These national priorities are designed to guide investment in areas of immediate and critical importance to Australia and its place in the world.

In 2015 panels of experts were appointed to identify Practical Research Challenges within each of the Science and Research Priorities. As part of this effort to build a comprehensive picture of Australia's research capability and activities, and to track these into the future, the ARC provided detailed analyses of Australian publication activity from the ERA dataset. The aims of the analyses were to provide a comprehensive map of capability and potential capacity across the nation taking scholarly publication output as a proxy measure, as well as to identify the research on which Australia focuses and in which it excels.

For each Practical Research Challenge, the mapping analyses depicted where Australia is placed relative to other countries, trends in research output, which institutions within Australia produce high volume and high quality research, and Australia's main international collaborative partners. The analyses provided the expert panels with robust evidence to inform their deliberations and form a baseline for tracking the nation's progress in future.

The nine Australian Government Science and Research Priorities announced in May 2015 were Food, Soil and water, Transport, Cybersecurity, Energy, Resources, Advanced Manufacturing, Environmental change and Health. The Practical Research Challenges identified for Food, for example, were:

1. Knowledge of global and domestic demand, supply chains and the identification of country specific preferences for food Australia can produce.
2. Knowledge of the social, economic and other barriers to achieving access to healthy Australian foods.
3. Enhanced food production through:

- novel technologies, such as sensors, robotics, real-time data systems and traceability, all integrated into the full production chain
- better management and use of waste and water; increased food quality, safety, stability and shelf life
- protection of food sources through enhanced biosecurity
- genetic composition of food sources appropriate for present and emerging Australian conditions.

CASE STUDY 2: OUTCOMES OF BENEFIT

Informed by ERA: Australian Government's National Strategy for International Education

ERA data were used to inform the development of the draft National Strategy for International Education 2025. As noted in the policy description, ERA is designed to have real effects including the alignment of research training with areas of both institutional and national strength.

The final strategy, released by the Department of Education and Training on 30 April 2016, is a 10-year plan to develop Australia's role as a global leader in education, training and research. It is aimed at strengthening Australia's internationally recognised education system, increasing global partnerships and driving collaboration with local communities and international partners.

CASE STUDY 3: OUTCOMES OF BENEFIT

Informed by ERA: Australian Academy of Science's Decadal Plan for Chemistry

ERA results were used in the Decadal Plan for Chemistry (2016–25) as part of the description of the current state of chemistry. The ten-year plan, developed by the Australian Academy of Science's National Committee for Chemistry, envisages improved links between chemistry researchers and industry, as well as better quality school and tertiary chemistry education in Australia. It also outlines strategic goals for chemistry, including improving teacher expertise, strengthening links between industry and the chemistry research community, and creating a positive image for chemistry.

2.4 ANNUAL PERFORMANCE STATEMENT: PURPOSE 3

Purpose

Providing advice on research matters (Outcome 1, Programmes 1.1, 1.2 and 1.3)

Description

The ARC's commitment and contribution to policy development plays an essential role in facilitating excellent research outcomes for Australia. In doing so the ARC takes an active and collegiate approach to identifying and responding to emerging issues and challenges relevant to Australia's research sector.

Through policy development and advice, the ARC aims to:

- reflect current government priorities and initiatives in its operations
- contribute to the development of national research and innovation policy
- provide influential advice on research matters to the Australian government
- support the effective delivery of ARC programmes.

Highlights of delivery

Policy advice underpins the ARC's delivery of the National Competitive Grants Programme (NCGP) and Excellence in Research for Australia (ERA) (PBS p158–166). In the *ARC Corporate Plan (CP) 2015–16 to 2018–19*, policy advice deliverables are identified as NCGP funding rules and related programme documentation, ERA outcomes and analyses; research related policies; research informatics and participation in coordinated policy development across portfolios.

In 2015–16 the ARC:

- released funding rules and associated programme documentation for the Discovery and Linkage Programmes of the NCGP
- completed the 2015 ERA evaluation process and published the *Statement of Australian University Research 2015–16, Volume 1 ERA National Report* research related policy (see Section 2.3 for further information on ERA)
- continued to identify different ways of presenting ARC data to help highlight the outcomes being achieved
- continued to work with the National Health and Medical Research Council (NHMRC) and Universities Australia on revising the *Australian Code for the Responsible Conduct of Research.*

Results

Intended result: Outcomes of benefit to Australia

Description

The ARC's aim is to develop and, as appropriate, implement policies and policy advice that support the achievement of outcomes of benefit to Australia.

Performance

Measure 1	Evidence that ARC policies and/or policy advice facilitate outcomes of benefit to Australia	
Source	CP 2015–19, page 27	
Target	At least two case studies per year	
Results	Two case studies of policy development activities undertaken during 2015–16 are provided at the end of this section. The case studies relate to: the release of the ARC's *Statement of Support and Expectations for Gender Equality*, and the ARC's contribution to research code review activities undertaken during 2015–16.	**Target met**

Analysis

During 2015–16, the ARC:

- continued to support current government priorities, including implementation of the new Science and Research Priorities (through all funding schemes of the NCGP) and Industrial Research Transformation priorities (through the Industrial Transformation Research Programme)
- participated in a range of national innovation policy initiatives including the Review of Research Policy and Funding Arrangements (the Watt Review), the Review of Research Infrastructure and the Review of Australia's Research Training System
- provided advice to the Minister on NCGP and ERA operations and outcomes, as required, including development of NCGP funding rules
- continued to monitor activities both nationally and internationally in relation to current ARC policies, for example, open access, open data, research integrity and conflict of interest
- worked cooperatively with other agencies on a range of research policy activities.

Outcomes or potential outcomes of benefit arising from the activities above included the following:

- on 6 May 2016, the Government announced it had accepted all the recommendations of the Watt review to strengthen Australia's research system, improve collaboration between universities and business, and translate research outcomes into economic and social benefits. The recommendations encompassed a range of ARC policy and programme areas and included: improving recognition of industry experience in competitive grant processes; increasing collaboration between universities and industry; supporting more consistent and targeted approaches to different streams of research funding (in particular, competitive grants and research block grants); assessing research impact; and encouraging research commercialisation through more effective intellectual property management
- the implementation of minor changes to 2017 NCGP funding rules, including an increase in the on-cost amounts to be requested in respect of salaries (from 28 per cent to 30 per cent).

Intended result: ARC policies and policy advice are delivered effectively

Description

The ARC's aim in delivering its policies and policy advice effectively is to ensure that its programmes deliver outcomes and are accepted by stakeholders.

Performance

Measure 2	Level of stakeholder satisfaction with ARC policy advice	
Source	CP 2015–19, page 27	
Target	Stakeholders are satisfied with ARC policies and policy advice	
Results	Feedback received following the release of policies indicates general satisfaction with policy advice. A case study of the outcomes of a regional Global Research Council meeting hosted by the ARC in December 2015 is provided at the end of this section as an example of ways in which ARC policy development activities are informed by international engagement activities.	**Target met**

Analysis

During 2015–16 the ARC:

- continued to ensure its development of policy advice was evidence based, including investigating different ways of interrogating data to help reveal trends or issues of concern
- continued to engage with a broad range of stakeholders both nationally and internationally about research matters (including peer review and evaluation).
- communicated any changes in its policies
- maintained an evaluation plan for key programme initiatives.

Stakeholders engaged with information provided as well as with consultation and information sessions under both ERA and NCGP.

Analysis of the impact of changes on performance

There were no changes in the ARC's purposes, activities, organisational capability or environment that impacted on its performance in delivering Purpose 3: providing policy advice.

As noted on page 3 a key development during the year was the conduct by the Australian Government of a range of research and higher education review activities. This provided opportunities for the ARC to engage in discussions and respond to requests for information about a broad range of research and higher education issues. However, it had no impact on the ARC's performance in delivering its ongoing policy activities during 2015–16.

CASE STUDY 1: POLICY ADVICE FACILITATES OUTCOMES OF BENEFITS TO AUSTRALIA

Gender statement and action plan

The ARC is committed to ensuring that all eligible researchers, irrespective of gender, have the opportunity to participate in NCGP funding schemes.

As part of this commitment, in November 2015 the ARC published *Gender Equality in Research: ARC Statement of Support and Expectations for Gender Equality* and the *ARC Gender Equality Action Plan for 2015–16.*

The *Gender Equality in Research* statement outlines the principles of gender equality within the provisions of the NCGP. It also sets out for Administering Organisations receiving ARC funding, the ARC's expectations regarding the processes that they will have in place to support gender equality in their research workforce, with a current focus on the retention and progression of women.

The *Gender Equality Action Plan 2015–16* highlights the initiatives that the ARC currently has in place which have a gender equality component, as well as setting out activities the agency will undertake during the year to promote research workforce gender equality. A report against the initiatives identified in the 2015–16 Action Plan is provided below.

Progress against activities planned in 2015–16

In 2015–16, the ARC:

- monitored and evaluated the impact of changes to the eligibility requirements under the Discovery Early Career Researchers Award scheme. Researchers seeking an extension of eligibility under the DECRA and Future Fellowships scheme were allowed to claim two years' career interruption for carer's responsibilities for dependence children without any documentation
- created a dedicated web portal for research workforce gender equality information as a resource for researchers at the same time the documents above were released. This resource includes gender disaggregated statistics, and highlights the ARC's gender equality initiatives
- monitored the gender balance of membership on ARC selection committees relative to the overall gender balance in particular research fields. The gender balance for all discipline groupings of the ARC College of Experts improved in 2016, with an overall increase in the proportion of female College Experts members of seven per cent (36 per cent up from 29 per cent in 2015). In calling for new College of Experts members the ARC encouraged applications from women
- commenced planning for a forum involving named Australian Laureate Fellows about mentorship activities undertaken as part of their fellowship

- continued to raise awareness of the options for recipients of fellowships and awards to utilise parental leave and part-time arrangements for caring responsibilities. As part of the material published on the website, the ARC published a quick reference guide to leave arrangements
- included a requirement for the development and implementation of a Centre-specific equity plan within the Funding Agreement for ARC Centres of Excellence commencing in 2017
- continued to promote gender equality issues through presentations and participation in relevant forums. During 2015–16 ARC staff participated in a range of forums focused on the topic of gender equality
- investigated options for unconscious bias training for ARC College of Experts members.
- continued to monitor leave provisions under fellowships and awards to ensure consistency between schemes

2015–16 statistics

- Success rates for women exceeded those of men under the Discovery Early Career Researcher Award 2016, Future Fellowships 2015 and Australian Laureate Fellowships 2015 schemes.
- Schemes where the success rates of women were below those of men include Linkage Projects 2015 and Linkage Infrastructure Equipment and Facilities 2016.
- Across all schemes, the participation rates for women were lower than the rates of men, ranging from 16 per cent for Industrial Transformation Training Centres to 57 per cent for Discovery Indigenous.

CASE STUDY 2: POLICY ADVICE FACILITATES OUTCOMES OF BENEFITS TO AUSTRALIA

Contribution to research code development

Australian Code for the Responsible Conduct of Research

The *Australian Code for the Responsible Conduct of Research (2007)* guides institutions and researchers in responsible research practices. The code—developed jointly by the NHMRC, the ARC and Universities Australia—has application across all research disciplines and all ARC-funded research must conform to the principles outlined in the code. It advocates and describes best practice and provides a framework for handling breaches of the code and research misconduct.

A review of the Code commenced in 2014–15 and continued throughout 2015–16. The review is supported by the NHMRC, the ARC and Universities Australia (as co-authors of the code), and a Code Review Committee representative of the research sector. The review is undertaking a combination of both targeted and broad consultation with the sector. The revised code is expected to be released in mid-2017.

National Statement on Ethical Conduct in Human Research

The *National Statement on Ethical Conduct in Human Research (2007)* consists of a series of guidelines made in accordance with the *National Health and Medical Research Council Act 1992*. The statement is intended for use by: any researcher conducting research with human participants; any member of an ethical review body reviewing that research; those involved in research governance; and potential research participants.

In 2015–16 the ARC was represented on the National Statement Review Working Group, led by the NHMRC, which undertakes rolling review of the *National Statement on Ethical Conduct in Human Research*. In 2015–16 the Review Working Group continued to focus on 'Section 3: Ethical considerations specific to research methods or fields of the National Statement'.

Human Research Ethics Application

In 2015–16 the ARC participated in an advisory group formed to develop a Human Research Ethics Application to replace the National Ethics Application Form, following a consultation commissioned by the NHMRC. A simplified and efficient form will support nationally consistent ethical review and site-assessment for all research involving human participants, in particular clinical trials. It is expected that the application will be finalised and released in 2016–17.

CASE STUDY 3: ARC POLICIES AND POLICY ADVICE ARE DELIVERED EFFECTIVELY

Global Research Council meeting @ ARC

In December 2015, the ARC and Papua New Guinea Research, Science and Technology Secretariat co-hosted the Global Research Council (GRC) Asia-Pacific Regional Meeting in Canberra. The meeting brought together senior representatives of research funding agencies from seventeen countries to discuss recent developments, shared priorities and challenges in research management across the region.

Along with the co-hosts, the countries represented at the meeting included China, Germany, India, Indonesia, Iran, Japan, Malaysia, New Zealand, Singapore, South Africa, South Korea, Sri Lanka, Taiwan, United Kingdom and United States of America.

Participants at the meeting shared perspectives and best practices, and developed a regional position on two GRC 2016 topics: interdisciplinarity; and the equality and status of women in research. Discussion highlighted the complexity of both topics, including the challenges that funding agencies may face within their own national contexts, particularly when addressing issues that have implications across national boundaries. The outcomes of discussion on these two topics contributed to a broader global-level dialogue at the GRC Annual Meeting in New Delhi in May 2016.

Additionally, participants at the Regional Meeting discussed two supplementary topics identified by the co-hosts as important for the region: research integrity; and research capacity building and cooperation in the Asia-Pacific. Discussion of these topics reinforced the diversity of experiences and approaches within the region and emphasised the value of continued dialogue and information sharing.

The Regional Meeting exemplified the role of Australia and the ARC as a research leader in the region and the opportunities that forums, such as the GRC, provide for the diversity of countries in the region to participate in rich conversations and exchanges.

2.5 FINANCIAL PERFORMANCE

Summary

This section provides an overview of the ARC's financial performance during 2015–16 for both departmental and administered activities. It should be read in conjunction with the information on financial performance provided in Part 4 which includes:

- the ARC's financial statements (including a statement from the Chief Executive Officer and Chief Financial Officer that the statements comply with the Public Governance, Performance and Accountability Act 2013 and that the ARC is a going concern)
- the Australian National Audit Committee unqualified audit opinion for these statements.

The entity resource statement is presented in Appendix 5: Table A5.1 followed by the Expense by Outcome table, Table A5.2.

The ARC's total appropriated resources for 2015–16 were $846.1 million. This comprised:

- $821.2 million for the administered appropriation ($815.5 million special appropriation for the National Competitive Grants Programme and $5.7 million for the annual administered appropriation)
- $24.8 million for the departmental appropriation ($21.0 million for operating expenses, $1.3 million for the Departmental Capital Budget and $2.6 million for an equity injection).

Departmental activities

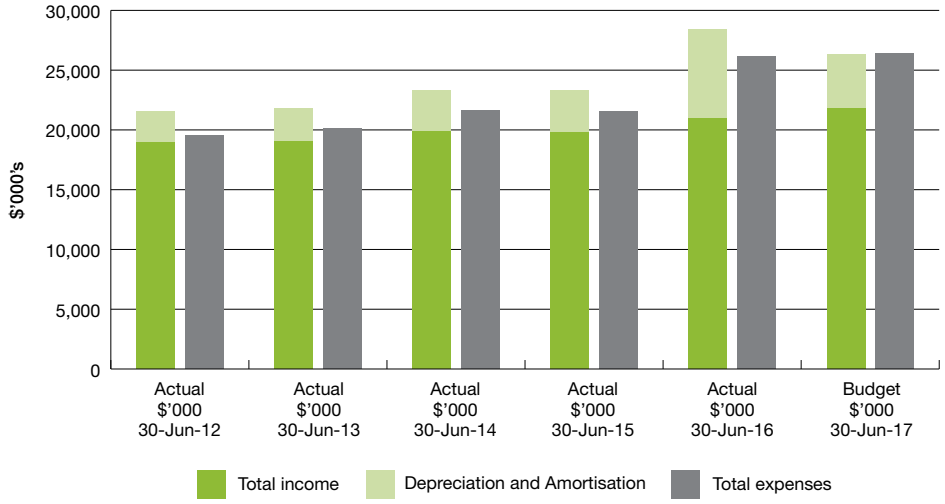
Departmental activities include assets, liabilities, revenues and expenses that the ARC controls directly and uses to produce outcomes on behalf of the government.

Figure 2.11 outlines the ARC's departmental financial performance over the past five years and the current budget for 2016–17. Expenditure and Government revenue has been consistent over the 2011–12 to 2014–15 financial years. The increase in 2015–16 expenditure and 2016–17 budget mainly reflects the 2015–16 Mid-year Economic and Fiscal Outlook measures relating to the National Innovation and Science Agenda.

For 2015–16, the ARC recorded an operating deficit of $5.1 million. If the depreciation and amortisation expenditure is excluded to account for the net cash arrangements this results in a $2.3 million surplus.

As indicated in Figure 2.11 depreciation and amortisation costs for 2015–16 were greater than in previous years. This is mainly attributable to the completion of the Research Management System intangible asset in 2015–16. With the completion of RMS the aged and non-compatible components of the previous RMS were assessed as no longer having a useful life.

Figure 2.11: Departmental financial performance, 2011–12 to 2016-17

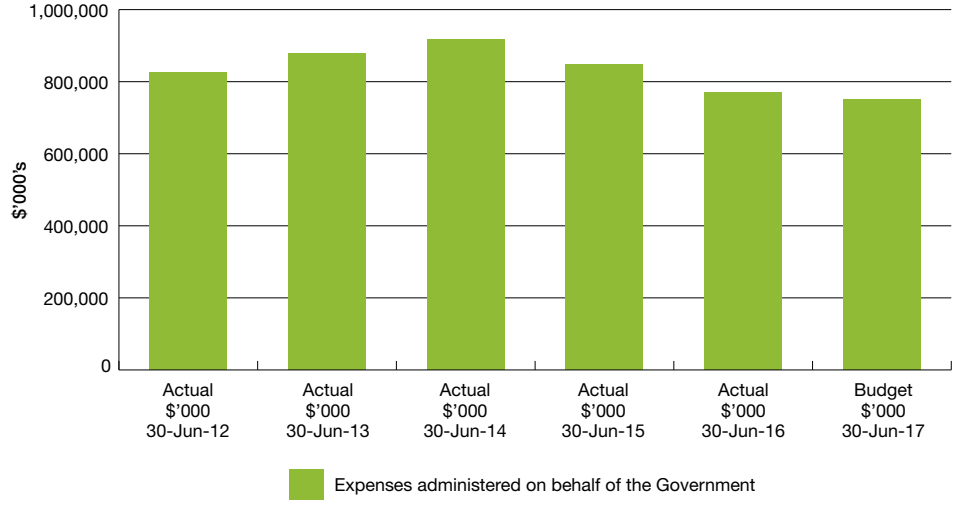


Administered activities

Administered activities includes assets, liabilities, revenues and expenses that are managed by the ARC on behalf of the Government which includes grants and supplier costs.

Figure 2.12 outlines the ARCs administered financial expenditure over the past five years and the budget for 2016–17. The expenditure fluctuates from year to year and reflects the Government's priorities and also the timing of when expenditure has been recognised.

Figure 2.12: Administered financial performance, 2011–12 to 2016–17



PART 3

MANAGEMENT AND ACCOUNTABILITY

3.1 CORPORATE GOVERNANCE

Fraud measures

In 2015–16, the ARC:

- undertook fraud risk assessments
- reviewed and updated its fraud control plan to align with the Commonwealth Fraud Control Framework
- provided fraud awareness training for all staff
- provided regular updates to the ARC Audit Committee on fraud-related matters.

The Accountable Authority's certification about the ARC's measures for preventing, detecting, investigating and recording fraud is provided in the letter of transmittal (page iii).

Corporate governance structures and processes

Executive and senior staff

At 30 June 2016, the ARC had seven executive staff: the Chief Executive Officer (CEO); Executive General Manager (EGM); Branch Manager, Policy and Strategy Branch; and four Executive Directors. Executive Directors are academics drawn from the higher education and research sectors usually for a period of between three and five years.

In addition to the executive staff, the ARC had three senior staff at 30 June 2016: Dr Laura Dan, Chief Programme Officer; Ms Julija Deleva, Chief Financial Officer; and Ms Trish Leahey, Chief Information Officer.

Responsibilities

Professor Aidan Byrne, CEO

The ARC CEO has statutory responsibilities for managing and leading the agency in accordance with the requirements of relevant legislation.

Under the *Australian Research Council Act 2001* (ARC Act) the CEO must: make recommendations to the Minister in relation to which proposals should be approved for funding; administer the financial assistance for research provided through the NCGP; provide advice to the Minister on research matters; and any other functions conferred on the CEO by the ARC Act or any other Act.

Professor Aidan Byrne was ARC CEO for the entire period of this report. On 24 May 2016 Professor Byrne announced he would be leaving the ARC in the last quarter of 2016.

Ms Leanne Harvey, EGM

Ms Harvey is responsible for the Research Excellence Branch and the Corporate Services Branch. The Research Excellence Branch comprises three sections with responsibility for managing Excellence in Research for Australia (ERA), developing an engagement and impact assessment framework and undertaking evaluations of NCGP funding schemes. The Corporate Services Branch comprises four sections with responsibility for financial management; legal services; people and services (including property and facilities management); and corporate communications and parliamentary and ministerial liaison.

Ms Kylie Emery, Branch Manager, Policy and Strategy Branch

Ms Emery is responsible for the Policy and Strategy Branch. The Branch comprises two sections with responsibility for the development of policy advice in relation to the NCGP; coordination of the ARC's planning and reporting responsibilities; NCGP data analysis; the ARC Advisory Council; research integrity; the ARC Audit Committee; and coordination of internal audit and risk management activities.

Professor Clive Baldock, Executive Director, Engineering, Mathematics and Information Sciences

Professor Baldock, who joined the ARC in October 2015, is responsible for discipline activities in engineering, mathematics and information sciences. He also oversees a range of NCGP funding schemes.

Dr Fiona Cameron, Executive Director, Biological Sciences and Biotechnology

Dr Cameron is responsible for discipline activities in biological sciences and biotechnology. She also oversees a range of NCGP funding schemes.

Scientia Professor Dennis Del Favero, Executive Director, Humanities and Creative Arts

Professor Del Favero, who joined the ARC in August 2015, is responsible for discipline activities in humanities and creative arts. He also oversees a range of NCGP funding schemes.

Professor Marian Simms, Executive Director, Social, Behavioural and Economic Sciences

Professor Simms is responsible for discipline activities in social, behavioural and economic sciences. She also oversees a range of NCGP funding schemes.

Committees

ARC Advisory Council

The ARC Advisory Council provides strategic advice to the CEO on issues relating to the mission of the ARC including: strategic planning; policy matters relating to innovation, research and research training; and matters relating to the evaluation of the quality and outcomes of research and research training in an international context.

The Council is chaired by the CEO and comprises up to nine additional members appointed by the CEO on the basis of their distinguished academic research records and/or achievements in business research and development (see Table 3.1). In 2015–16, the Advisory Council met on 23 September 2015 and 16 March 2016.

Table 3.1: ARC Advisory Council, 2015–16

Member, Institution	Date of appointment	Expiry of appointment
Professor A Byrne, ARC (Chair)	23/07/2012	07/09/2017
Professor P Buckskin, University of South Australia	01/01/2011	30/06/2017
Ms K Carnell, Australian Small Business and Family Enterprise Ombudsman	01/07/2015	30/06/2017
Professor E Cornish, Monash University	01/07/2015	30/06/2017
Professor P Johnson, The University of Western Australia	01/01/2011	30/06/2017
Professor T Snell, The University of Western Australia	01/07/2015	30/06/2017
Professor P Wellings, University of Wollongong	01/01/2011	31/12/2017
Mr P Yates, Myer Family Investments, Royal Institute of Australia	01/01/2011	31/12/2017

Audit Committee

The role of the ARC Audit Committee is to provide the CEO with independent assurance by reviewing the ARC's financial and performance reporting responsibilities; systems for internal control; risk management and corporate governance.

The committee is established by the CEO in compliance with the *Public Governance, Performance and Accountability (PGPA) Act 2013* (PGPA Act) and *PGPA Rule 2014* (Section 17). Its functions and responsibilities are detailed in the *ARC Audit Committee Charter* which is reviewed annually or as required. The Committee's membership is a mixture of internal and external appointments who collectively possess a broad range of skills and experience relevant to the operations of the ARC (see Table 3.2). During 2015–16, the ARC Audit Committee met on five occasions.

Table 3.2: ARC Audit Committee, 2015–16

Member	Date of appointment	Expiry of appointment
Mr P Kennedy, External (Chair)	01/01/2010	30/09/2016
Dr E Arthur, External	01/11/2013	31/10/2016
Dr J Baker, ARC	01/03/2016	28/02/2019
Mr C Gammon, ARC	01/01/2014	31/12/2015
Ms S Howard, ARC	01/10/2014	30/09/2016
Mr T Krizan, External	01/11/2015	31/10/2017
Mr G Rankin, External	01/11/2013	31/10/2017

Senior Management Group

The role of the ARC's Senior Management Group (SMG) is to provide advice and direction on strategic and operational issues and coordinate activities across the agency. In 2015–16, the committee comprised: the CEO; the EGM; Branch Manager, Policy and Strategy; Chief Financial Officer; Chief Information Officer; Chief Programme Officer; and Director, People and Services.

During the year, the following management committees reported through SMG to the CEO:

- the Business Continuity Plan Committee, which ensures that the Business Continuity Plan remains current and practical, and is tested on a scheduled basis, to minimise the likelihood and/or consequence of any potential risk exposure to the core business processes of the ARC
- the Diversity Working Group, which integrate diversity and equity matters into work place practice and provides leadership for changing the work culture
- the ICT Change Control Committee, which oversees approval of changes to ICT applications and infrastructure and coordinates the release of all changes
- the ICT Governance Committee, which reviews the ICT services requirements for the ARC, acts as the project board on significant ICT projects, and provides recommendations on priorities for ICT Services
- the People Management and Development Committee, which provides a forum for the ARC to consult with employees and their representatives about workplace issues that affect them
- the Security Committee, which oversees adherence to physical, personal, and IT security measures within the ARC
- the Work Health and Safety Committee, which develops and promotes initiatives to protect the health and safety of employees, contractors and visitors through the implementation and review of the effectiveness of the ARC's work health and safety policies and practices.

Other committees

The ARC has a number of other committees which provide advice to the CEO about research integrity matters, ERA and the NCGP.

Australian Research Integrity Committee

The ARC and the National Health and Medical Research Council (NHMRC) jointly established the Australian Research Integrity Committee (ARIC) in February 2011. On request, ARIC reviews whether an institution's response to an allegation of research misconduct is consistent with the *Australian Code for the Responsible Conduct of Research* (2007) and the institution's own policies and procedures.

ARIC comprises four expert members (Table 3.3) and reports to both the ARC and the NHMRC. During 2015–16 the ARIC-ARC secretariat received three requests for review, which it referred to ARIC for consideration. Two reviews were undertaken. One of these reviews was finalised and the outcomes were communicated to the relevant parties by the ARC. The other review was still ongoing as at 30 June 2016. The Committee considered the third request for review and determined that it was not within the jurisdiction of ARIC.

Table 3.3: Australia Research Integrity Committee, 2015–16

Member	Year of current appointment	Expiry of current appointment
Mr R Brent (Chair)	December 2013	December 2016
Dr K Breen	December 2013	December 2016
Ms J Hamblin	December 2013	December 2016
Emeritus Professor S Shaver	December 2013	December 2016

ERA Research Evaluation Committees

Evaluations in ERA are undertaken by Research Evaluation Committees (RECs) comprising distinguished Australian and international researchers drawn from nominations submitted to the ARC from the sector. REC members assess the quality of research in Australia using a range of metrics and peer review.

There were eight RECs for ERA 2015 covering the disciplines: Physical, Chemical and Earth Sciences; Humanities and Creative Arts; Engineering and Environmental Sciences; Education and Human Society; Economics and Commerce; Mathematical, Information and Computing Sciences; Biological and Biotechnological Sciences; and Medical and Health Sciences. In 2014–15 the ARC appointed 155 committee members to conduct the ERA 2015 evaluations, drawn from more than 700 nominations from the sector. The RECs completed their evaluations in 2015–16.

A list of the 2015 REC members can be found on the ARC website.

ERA Scrutiny Committee

For each ERA evaluation an ERA Scrutiny Committee is appointed to scrutinise the processes followed by the ERA RECs in assessing the 'home' Unit of Evaluation (UoE) of each REC member. A REC member's 'home' UoE is the UoE associated with their institution and their primary area of expertise (by four-digit Field of Research). The committee which comprises experts drawn from previous ERA RECs is appointed by the ARC CEO. The ERA 2015 Scrutiny Committee, appointed in June 2015, met following the ERA 2015 evaluations and scrutinised the ERA 2015 process prior to the release of the ERA 2015 National Report.

NCGP College of Experts

Members of the ARC College of Experts assess and rank ARC proposals submitted under the NCGP, make funding recommendations to the CEO and provide strategic advice on emerging disciplines and cross-disciplinary developments. Members are experts of international standing drawn from the Australian research community—from higher education, industry and public sector research organisations. New members are appointed each year through a competitive recruitment process under which nominations are sought from suitable qualified and experienced individuals

In November 2015, following a competitive selection process, the ARC appointed new members to the ARC College of Experts to participate in deliberations for 2016 onwards. As at 30 June 2016, there were 169 members of the ARC College of Experts.

Large multi-panel College of Experts meetings were held in August 2015, November 2015 and April 2016 to assess proposals for funding under the Discovery Projects, Discovery Early Career Research Award, Discovery Indigenous, Future Fellowships, Linkage Projects and Linkage Infrastructure, Equipment and Facilities schemes.

A list of College of Experts members as at 30 June 2016 can be found on the ARC website.

NCGP Selection Advisory Committees

The ARC CEO convenes Selection Advisory Committees (SACs) from time to time to assist with the selection processes of new schemes and special research initiatives. SACs may include members of the ARC College of Experts as well as other suitably experienced experts appointed by the ARC. In 2015–16 SACs assessed proposals for funding under the Australian Laureate Fellowships scheme; the Industrial Transformation Research Programme; and ARC Centres of Excellence.

NCGP Appeals Committee

The NCGP Appeals Committee considers appeals submitted to the ARC in relation to the NCGP and makes recommendations to the CEO about whether each appeal should be upheld or dismissed. The committee also provides general advice to the ARC in relation to how administrative processes could be modified or improved. The committee consists of external members appointed by the CEO. 2015–16 members were Ms K Campbell (Chair), Professor A Cheetham, Professor B Kennet and Professor L Johnson. The Appeals Committee met once in 2015–16.

NCGP Eligibility Committee

The NCGP Eligibility Committee considers eligibility issues under the funding schemes of the NCGP. The committee, comprising Executive Directors, the Chief Programme Officer and relevant Directors of the Programmes Branch, provides recommendations to the ARC CEO.

NCGP Scrutiny Committee

The NCGP Scrutiny Committee scrutinises the probity of ARC assessment processes in relation to funding proposals involving members of the ARC College of Experts and/or ARC staff. The committee comprises three members appointed by the CEO. In 2015–16, members were Professor R Fitzgerald (University of Canberra) (Chair), Ms V Hart (Department of Education and Training) and Mr S Sedgley (ARC). The NCGP Scrutiny Committee met once during 2015–16.

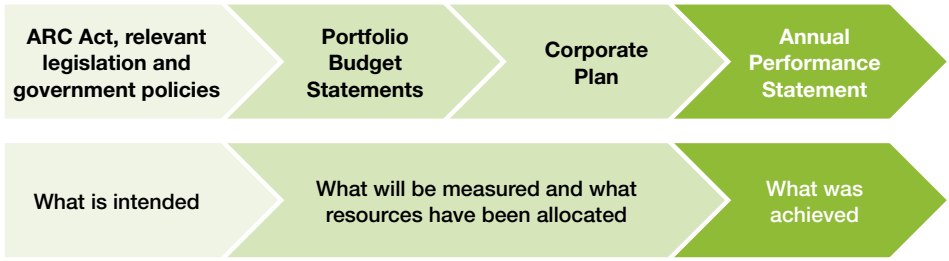
Planning and reporting arrangements

The ARC's performance measurement framework is consistent with the requirements of the *PGPA Act 2013* and the enhanced Commonwealth Performance Framework.

The ARC's framework ensures there is a clear line of sight between the performance criteria published in the ARC's Portfolio Budget Statements (PBS) and corporate plan and the performance information published in the annual performance statement in the annual report. Together, these three documents aim to provide the ARC's complete performance story (see Figure 3.1).

In addition to published performance information, the ARC's performance measurement framework is supported by internal operational planning, monitoring and reporting processes.

Figure 3.1: External planning and reporting framework, 2015–16



During 2015–16 the ARC:

- prepared the *ARC Annual Report 2014–15*. The report was tabled in both Houses of Parliament on 28 October 2015
- prepared the *ARC Corporate Plan 2014–15 to 2017–18*, the first plan prepared under the requirements of the *PGPA Act 2013*. In accordance with the requirements of the then ARC Act, the Minister tabled the ARC corporate plan in Parliament on 22 October 2015. On 1 December 2015 the ARC Act was amended, to bring the ARC's corporate planning requirements into line with other Commonwealth entities. As a result, the ARC corporate plan is no longer required to be tabled in Parliament
- following publication of the ARC corporate plan, developed the ARC operational plan for 2015–16. This process allowed branches to map their planned activities to the corporate plan. Biannual reporting against the plan allowed the ARC to track progress against its responsibilities
- prepared the 2016–17 Portfolio Budget Statements in accordance with Department of Finance guidance. The PBS was tabled in Parliament on 3 May 2016 as part of the Education and Training PBS 2016–17
- continued to review its performance measurement framework in preparation for drafting of the corporate plan 2016–17. Policy and Strategy Branch held a workshop with senior staff to discuss current performance criteria and future directions
- participated in Community of Practice meetings organised by the Department of Finance to share experiences and information about the new planning and reporting requirements.

Internal audit arrangements

An integral part of the ARC's corporate governance framework is the ARC's internal audit function. Internal audit provides an independent and objective review and advisory service, giving the CEO assurance that the ARC's financial and operational controls, designed to manage the entity's risk and achieve the ARC's objectives, are operating in an efficient, effective, economical and ethical manner. Internal audit also assists management in improving the ARC's business performance.

The ARC's internal audit function is managed by the Head, Internal Audit. The Branch Manager, Policy and Strategy assumes the role of Head, Internal Audit. The internal auditor role is outsourced to an independent service provider and reports to the Audit Committee through the Head, Internal Audit. In 2015–16 the ARC's internal auditor was KPMG.

KPMG assisted in the development of an annual internal audit work plan and undertook the following audits during 2015–16:

- Data Migration: GPS to RMS 2.0
- Grants Administration: Compliance with Commonwealth Grant Rules and Guidelines
- ARC Logistics
- Grants Administration Health Check: Institutional Reviews
- Excellence in Research for Australia: Information Management.

Managing risk

Framework

The ARC manages risk in accordance with the PGPA Act, the *Commonwealth Risk Management Policy* and the *Australian/New Zealand Standard for Risk Management* (AS/NZS ISO 31000: 2009). The ARC's risk management framework is underpinned by five key components: a policy; a plan and toolkit; an operational risk register; a strategic risk register; and a network of risk champions. The framework is reviewed annually by the SMG to facilitate continual improvement.

Results from the 2016 Comcover Risk Management Benchmarking Programme found that the ARC achieved an overall risk maturity level of 'Advanced' which was an improvement on the 'Integrated' level achieved in 2015. The benchmarking programme concluded that the ARC had a well-established risk management policy, risk management was embedded into business processes and the ARC was continuously improving its risk management practices.

Contribution of risk management in achieving objectives

The ARC risk management framework is designed to minimise the possibility of loss or damage to operations, staff, property, reputation and assets, while recognising opportunities to meet the stated objectives of the organisation within a good corporate framework.

In January 2016, the ARC reviewed its strategic risks for 2015–16 to ensure that they remained relevant, and that the controls for each risk were still effective and appropriate. In parallel with strategic planning processes for 2016–17, the ARC also considered its strategic risks for the coming year.

The ARC reviewed its operational risks in July 2015 and February 2016. This biannual activity helped ensure that business areas were able to properly plan and deliver against the key activities outlined in the ARC's operational plan.

Business continuity and disaster recovery

The ARC's Business Continuity Plan (BCP) sets out the controls and contingencies to minimise the likelihood and/or consequence of any potential risk exposure to the core business processes of the ARC. It includes the ARC's ICT Disaster Recovery Plan, which is designed to safeguard and recover critical ICT systems.

In 2015–16:

- a Vital Records Plan was endorsed
- a BCP test plan was established
- two meetings of the BCP Committee were held.

Ethical standards

As a public service agency

The ARC is committed to high ethical standards. This commitment is promoted through:

- the ARC's guiding principles which include 'accountability through transparent, efficient and effective processes and adherence to ethical standards'
- the incorporation of ethical standards into ARC governance policies and guidelines
- the incorporation of the ARC values into performance agreements
- an ARC intranet site and the Australian Public Service Commission (APSC) Ethics Advisory Service
- an ARC Ethics Contact Officer.

The ARC includes an overview and discussion of the Australian Public Service (APS) Values and Code of Conduct as part of induction training for new appointees. Copies of the values and the code are provided to new appointees, who are required to acknowledge that they understand and adopt these before their appointments are finalised. Furthermore, biannual individual performance reviews provide ongoing opportunities for staff and supervisors to address ethical issues.

Data collected for the *State of the Service Report Census*, conducted by the APSC in 2015, showed 89 per cent of ARC staff believed that ARC senior executives act in accordance with the APS values, compared to 68 per cent APS wide.

The ARC is committed to preserving public confidence in the integrity, legitimacy, impartiality and fairness of its business. ARC committee members and assessors, as well as any other people undertaking ARC business, must comply with the *ARC Conflict of Interest and Confidentiality Policy*.

As a research funding agency

ARC Research Integrity and Research Misconduct Policy

In order to safeguard the integrity of the ARC's peer review, grant selection and research evaluation processes, funding recommendations and research outcomes, the *ARC Research Integrity and Research Misconduct Policy* requires institutions to report to the ARC the details of research integrity or research misconduct matters which have been investigated and resulted in corrective or disciplinary actions being taken. It also describes pathways via the ARC through which allegations of integrity breaches can be referred to institutions for investigation.

In accordance with the policy, in 2015–16 the ARC was notified of, or identified, 43 new matters relating to actual or potential research integrity breaches or research misconduct. This included matters reported by institutions as well as concerns identified through ARC business or members of the public. In addition, five matters reported in 2014–15 were ongoing in 2015–16. Institutional investigations found research integrity breaches and/or research misconduct in 20 of the 48 matters. The other 23 matters include allegations that have been dismissed, investigations that are still underway at the end of 2015–16, and matters where either no investigation nor reporting to the ARC was required.

National codes and statements on research ethics

All ARC-funded research projects must conform to the principles outlined in the *Australian Code for the Responsible Conduct of Research* (2007) and where applicable the: *National Statement on Ethical Conduct in Human Research* (2007); *NHMRC Values and Ethics: Guidelines for Ethical Conduct in Aboriginal and Torres Strait Islander Health Research* (2003); *Australian Institute of Aboriginal and Torres Strait Islander Studies Guidelines for Ethical Research in Australian Indigenous Studies* (2012); and *Australian Code for the Care and Use of Animals for Scientific Purposes* (2013).

Australian Research Integrity Committee

The ARIC is an independent body, jointly established by the ARC and the NHMRC, to provide a system to review institutional responses to allegations of research misconduct. Further information about ARIC is provided on page 84.

Service delivery and complaints handling

ARC Client Service Charter

The Client Service Charter, available on the ARC website, sets out the standards of service clients and stakeholders should expect from the ARC. The charter also provides guidance for the process clients and stakeholders can follow if they are dissatisfied with the level of service they have received. The standards of service relate to responses to telephone calls and correspondence as well as the provision of web services and storing of personal information.

In 2015–16 the ARC reviewed and updated its Charter. The revised Charter was communicated to all staff and made available on the ARC website.

Complaints handling

The *ARC Complaints Handling and Appeals Policy* is published on the ARC website. This policy aims to assist clients and stakeholders who want to make a general complaint about the ARC or submit an appeal about the administrative processes of the NCGP.

In 2015–16 the ARC:

- received no general complaints
- received 11 appeals relating to NCGP proposals submitted under the Discovery Projects and Future Fellowships schemes. Of the 11 appeals received, seven appeals were upheld by the NCGP Appeals Committee. Further information on the NCGP Appeals Committee is provided on page 85.

SES remuneration

For SES staff, terms and conditions are set out by Common Law Contracts. As at 30 June 2016 there were five Common Law Contracts in place for ARC SES staff.

Individual common law contracts determine the nature and amount of remuneration provided to SES employees. Remuneration is reviewed annually taking into account the individual's personal skills, knowledge, experience and capabilities as well as achievements against goals set in the preceding performance cycle.

At 30 June 2016 the notional salary range for SES Band 1 and Band 2 officers was between $185,000 and $285,000. In the Financial Statements, Table 6.2 provides additional information on senior management personnel remuneration in 2015–16 (see Part 4).

Non-compliance with Finance law

The ARC did not report any significant issues to the Minister under paragraph 19(1)(e) of the *PGPA Act 2013* that relates to non-compliance with Finance law.

3.2 EXTERNAL SCRUTINY

Significant developments in external scrutiny

There were no significant developments arising from external scrutiny of the ARC during 2015–16.

Judicial decisions, decisions of the administrative tribunals and by the Australian Information Commissioner

In 2015–16:

- there were no judicial decisions against the ARC under the *Administrative Decisions (Judicial Review) Act 1977*
- there was one request from the Office of the Australian Information Commissioner for the ARC to review a freedom of information decision.

Reports on operations by the Auditor General

During 2015–16 the ARC reviewed and considered the recommendations made within a number of Australian National Audit Office (ANAO) performance audit reports which dealt with issues relevant to the ARC. They were:

- Delivery and evaluation of grant programmes, ANAO report no. 25 of 2015–16
- Implementation of deregulation, ANAO report no. 29 of 2015–16
- Cyber resilience, ANAO report no. 37 of 2015–16.

Reports on operations by a Parliamentary Committee

The ARC appeared before the Senate Education and Employment Legislation Committee at estimates hearings held in February 2016 but was not required to appear at the November 2015 or May 2016 hearings.

The ARC responded to seven Questions on Notice arising from the November 2015 and May 2016 hearings. It also provided input to two Questions on Notice directed to the ARC's portfolio department, the Department of Education and Training, and provided responses to 66 cross-portfolio questions on notice in May 2016.

The *ARC Annual Report 2014–15* was tabled in Parliament on 28 October 2015. In March 2016 the Senate Education and Employment Legislation Committee released its report on annual reports for the agencies for which it is responsible (Annual reports—No. 1 of 2016). The committee assessed the *ARC Annual Report 2014–15* to be satisfactory in terms of timeliness of presentation and compliance with relevant reporting requirements.

Reports on operations by the Commonwealth Ombudsman

During 2015–16 there was one investigation about ARC business initiated by the Commonwealth Ombudsman's Office. The outcomes of the investigation had no substantial impact on the ARC's business.

Capability reviews

No capability reviews on the ARC were conducted or released during 2015–16.

3.3 PEOPLE MANAGEMENT

Staff statistics

Detailed staff statistics are provided in Appendix 5 including ARC staff by: classification level; employment category (ongoing, non-ongoing); employment status (full-time, part-time status); and gender, as well as staff separations by classification level and employment category.

In summary, at 30 June 2016:

- the ARC had 127 staff (including the CEO), compared to 115 at 30 June 2015
- 91 per cent of staff were ongoing, compared to 97 per cent at 30 June 2015
- 46 per cent of staff were at the Executive Level, compared to 49 per cent at 30 June 2015
- 71 per cent of staff were female, compared to 68 per cent at 30 June 2015
- no staff identified as being Indigenous, the same as at 30 June 2015
- 94 per cent were employed under the enterprise agreement.

The staff statistics are provided to support the assessment of the ARC's effectiveness in managing and developing staff during 2015–16. The ARC aims to manage its human resources efficiently and effectively to support the achievements of the purposes and objectives of the organisation.

Assessment of effectiveness in managing and developing staff

Workforce planning and staff retention and turnover

As a relatively small agency in terms of staff employed, workforce planning is critical. During 2015–16, the ARC reviewed its priorities for the year (as part of its operational planning processes) and the need for staff in particular areas to support those priorities (as part of its internal budget deliberations). The ARC maximised opportunities to develop a flexible and responsive workforce by:

- enabling staff rotations both inside and outside the ARC to support staff development. Inside the ARC, staff were encouraged to help with the ERA and NCGP processes during peak periods of activities. Outside the ARC, a number of staff were seconded for short periods to help with major policy reviews being undertaken by other agencies
- providing targeted training opportunities
- providing opportunities for staff to work at higher levels during staff absences
- ensuring relevant knowledge management and sharing processes were in place.

In 2015–16 staff turnover figures were higher than in previous years, with 19 separations recorded compared to 10 in 2014–15. Thirteen of these separations were for career opportunities, both inside and outside the Australian Public Service (APS).

Workplace diversity

Diversity planning forms an important part of workforce planning, promoting an inclusive workplace culture.

The ARC Workforce Diversity Programme 2015-19 provides an overarching framework for a number of diversity plans and policies including: the Multicultural Action Plan, the Discrimination and Harassment-free workplace policy, and the Reconciliation Action Plan. As part of the Programme the ARC committed to reporting progress in its annual report.

In 2015–16:

- all ARC staff completed eLearning modules on Cultural Awareness and Disability Awareness
- the ARC Diversity Working Group (DWG) met to discuss diversity ideas and progress against commitments in the Diversity Programme, Multicultural Action Plan and Reconciliation Action Plan. The Diversity Working Group brings together a diverse range of ARC employees including but not limited to: Aboriginal and Torres Strait Islander peoples as well as a Reconciliation Action Plan Champion and Agency Multicultural Plan Champion. It represents different styles, viewpoints and jobs to achieve a common goal: improving the work culture at the ARC
- the ARC participated in NAIDOC week activities. A number of staff represented the agency in the NAIDOC Touch Football Carnival
- the ARC worked on developing *Protocols for respecting country and culture of Aboriginal and Torres Strait Islander people*. The new protocol will help the ARC meet its commitments under the Reconciliation Action Plan, and to strengthen the ARC as a respectful and positive workplace
- the ARC celebrated Harmony Day, a day celebrated around Australia on 21 March each year to help all Australians celebrate cultural diversity. At an all staff lunch event held on that day, staff brought share plates of food representing their culture, family background, or country they love to visit
- the ARC continued to publicise the annual R U OK? Day Celebrations (September) a dedicated day to remind people to ask family, friends and colleagues the question, “R U OK?”, in a meaningful way
- the ARC continued to promote use of the Employee Assistance Program, including to new employees.

Employment arrangements

Description

During 2015–16 the ARC employed non-SES staff under the following arrangements:

- the *ARC Enterprise Agreement 2011–14*: This agreement operated from 20 September 2011 and nominally expired on 30 June 2014. During 2015–16 the ARC continued to negotiate for a new enterprise agreement. In the meantime, the existing agreement continues to apply
- Australian Workplace Agreements (AWAs): AWAs were formalised individual agreements negotiated by the employer and employee. Changes to the *Workplace Relations Act 1996* stipulated that no new AWA could be entered into on or after 13 February 2008. The ARC has a small number of staff on AWAs that were negotiated before those changes were enacted
- Individual flexibility arrangements (IFA): Employees covered by the *ARC Enterprise Agreement 2011–14* may agree to make an IFA to vary the effect of terms of the agreement. IFAs within the ARC generally deal with retention allowances or remuneration, allowing the CEO to remunerate specialised employees based on market forces and experience
- Section 24(1) determinations: Under section 24(1) of the *Public Service Act 1999,* the CEO can make determinations to offer staff remuneration or conditions that supplement those available under an enterprise agreement or AWA in order to avoid disadvantage. Section 24(1) determinations used in the ARC are individual arrangements and in general provide for a specified retention allowance. *The ARC Enterprise Agreement 2011–14* obviates the need for new determinations, although existing determinations will continue.

Details of SES employment arrangements (including remuneration) are provided on page 91.

Statistics

The number of ARC staff covered by the different employment arrangements are outlined in Table 3.4 below. At 30 June 2015, 94 per cent of non-SES staff were covered by the ARC Enterprise Agreement.

Note that the figures in Table 3.4 exclude the CEO and will result in doublecounting if added because non-SES employees with a section 24(1) Determination or IFA are also covered by the ARC Enterprise Agreement. As a result, the total number of agreements is higher than the total number of staff by the number of section 24(1) Determinations and IFAs.

Table 3.4: Employment arrangements covering staff (at 30 June 2015 and 2016)

Employment arrangement	Staff	2015 (no.)	2016 (no.)
ARC Enterprise Agreement	SES	n/a	n/a
	Non-SES	110	121
Australian Workplace Agreements	SES	0	0
	Non-SES	4	3
s. 24(1) Determinations	SES	0	0
	Non-SES	1	0
Individual Flexibility Arrangements	SES	1	0
	Non-SES	14	15

Salaries

The salary ranges for non-SES staff are provided in Table 3.5 below. The ranges reflect the full span of salaries available under the ARC Enterprise Agreement, AWAs, IFAs and Subsection 24(1) determinations.

Table 3.5: Salary ranges of non-SES staff by classification (at 30 June 2016)

Classification	Salary range
Executive Level 2	$111,082–$166,794
Executive Level 1	$92,557–$122,003
APS 6	$72,483–$84,186
APS 5	$65,467–$71,951
APS 4	$60,261–$63,682
APS 3	$53,604–$56,646
APS 2	$47,997–$52,142
APS 1	$45,730–$46,900

Performance pay

The ARC does not provide access to performance pay.

Non-salary benefits

The ARC offered a range of non-salary benefits in 2015–16 including:

- flu vaccinations
- a health allowance
- superannuation advice
- access to salary packaging arrangements.

Key training and development strategies, outcomes of training and development

ARC training and development activities are conducted within the framework of its *Learning and Development Strategy 2014–17*. The strategy aims to ensure that all employees have access to appropriate training opportunities to ensure the organisation has the right skills and knowledge to achieve its objectives. In the 2015 State of the Service Census, 83 per cent of ARC staff indicated that they believed the ARC provided access to effective learning and development opportunities compared to 62 per cent for the Australian Public Service.

In 2015–16, the People and Services Section coordinated access for ARC staff to a range of training opportunities including in-house training as well as external opportunities such as coaching, studies assistance and other training and development offerings.

In-house training

During the year all employees were required to undertake mandatory eLearning modules. The modules included: APS Values and Principles, Privacy Awareness, Commonwealth Resource Management, Fraud Awareness; Introduction to Risk in the Commonwealth; Bullying and Harassment Prevention; Disability Awareness; Working with Diversity, and Cultural Awareness. All new staff were required to undertake four eLearning modules: APS Values and Principles; Security; Privacy Awareness; and Fraud Awareness.

The ARC also provided in-house training to staff on:

- Application and Interview Skills for APS and Executive Level staff
- Influencing, Negotiating and Persuasion Skills
- Coaching and Developing Others
- Managing Upward and Outward
- Working with Diversity (mandatory for all staff).

Expenditure

In 2015–16 the ARC spent $97,803 on learning and development activities, including $12,909 on studies assistance for nine ARC staff members. Details of expenditure are provided in Table 3.6 below.

Table 3.6: Training and development by classification, 2015–16

Classification	Staff (no).	Days used (no.)	Expenditure ($)
CEO and SES	6	20.4	1322
Executive Level 1-2	58	245.4	52,034
APS1-6	63	257	44,447
Total	127	523.1	97,803

Work health and safety performance

The department's workplace health and safety arrangements, provided in accordance with Schedule 2, Part 4 of the *Work Health and Safety Act (Cth) 2011*, are reported in Appendix 7.

Productivity gains

During 2015–16, the ARC continued to review its procedures with view to streamlining administrative processes and systems for ARC staff as well as for clients of the ARC's NCGP and ERA.

The People and Services section redeveloped the human resources pages of the ARC's intranet to provide an easy-to-navigate source of accurate and useful information for all employees in relation to employment conditions; career development; health and wellbeing; and learning and development.

The ARC also implemented an Online Governance and Risk management Enterprise system as a central source for the collection and collation of risk management, compliance and other governance information. Automation of the collection and collation of this information has reduced the time spent on these functions and strengthened the contribution of planning and reporting activities to decision making.

3.4 FINANCIAL MANAGEMENT

Assets management

Assets management is not a significant part of the ARC's strategic business. The ARC's assets include office fit out, furniture, IT software and 'portable and attractive' equipment held at the ARC office. The ARC reviews its asset holdings annually to ensure cost effectiveness and whole-of-life asset utilisation. In 2015–16 the annual stocktake was conducted in February 2016.

Purchasing

The ARC's approach to purchasing is consistent with the *Commonwealth Procurement Rules*. Detailed policy and procedures relating to procurement are also set out in the *ARC's Accountable Authority Instructions (AAIs)* and other specific policy and procedure guides (such as those for travel and use of Commonwealth credit cards), all of which are reviewed and updated periodically.

The *Commonwealth Procurement Rules* represent the Australian Government's policy framework under which agencies govern and undertake procurement. The key rules are: value for money; encouraging competition; efficient, effective, economical and ethical procurement; accountability and transparency in procurement; procurement risk; and procurement method.

The ARC's Finance Section has overall responsibility for procurement within the ARC. Finance Section staff provide information and training about procurement policies and procedures as required. The ARC publishes information on proposed procurements in the ARC's procurement plan, available from the AusTender website: **www.tenders.gov.au**. This plan gives potential suppliers early notice of significant planned procurements for the coming year. All procurements over $10,000 are published on AusTender.

Consultants

Policy on selection and engagement

The ARC's policy on selecting and engaging consultants is set out in the ARC's AAIs and in related procurement instructions and guidance material. The ARC engages consultants primarily where there is a need for independent research or assessment or where a specialist skill or expertise is required. Consultants are engaged through a merit selection or procurement process.

Consultancy services are distinguished from other contracts for services by the nature of the work performed, which typically involves the development of an intellectual output that assists with agency decision-making and reflects the independent views of the service provider. By contrast, other (non-consultancy) contracts for services are typically far more restrictive in the degree of latitude afforded to the contractor. Details of contracts for services are available from the AusTender website.

Expenditure

During 2015–16 the ARC entered into 148 new consultancy contracts involving total actual expenditure of $3,898,257. In addition, 435 ongoing consultancy contracts were active during the 2015–16 year, involving total actual expenditure of $3,587,070. The majority of the new consultancy contracts in 2015–16 were for services relating to membership of ARC committees.

Over the past three years the ARC's expenditure on consultancy contracts was:

- $3,587,070 in 2015–16
- $2,985,430 in 2014–15
- $1,894,489 in 2013–14.

Annual reports contain information about actual expenditure on contracts for consultancies. Information on the value of contracts and consultancies is available on the AusTender website: **www.tenders.gov.au**.

Australian National Audit Office access clauses

All contracts let for goods and services during the reporting period of $100,000 or more (inclusive of GST) provided for the Auditor-General to have access to the contractor's premises.

Exempt contracts

The ARC CEO did not exempt any contracts from publication on the AusTender website during the reporting period.

Procurement initiatives to support small business

The ARC supports small business participation in the Commonwealth Government procurement market. Small and medium enterprises (SMEs) and small enterprise participation statistics are available on the Department of Finance website: **www.finance.gov.au/procurement/statistics-on-commonwealth-purchasing-contracts/**.

The ARC recognises the importance of ensuring that small business are paid on time. The results of the Survey of Australian Government Payments to Small Business are available on Treasury's website. The ARC incorporates a number of procurement practices to support SMEs, including the use of standard contract templates with clear and simple language and electronic payment systems to facilitate on-time payment.

3.5 OTHER MANDATORY INFORMATION

Advertising campaigns

During 2015–16 the ARC conducted no advertising campaigns.

Additional information on advertising and market research as required under the *Commonwealth Electoral Act 1918* is provided in Appendix 6.

Grant programs

Information on grants awarded by the ARC during the period 1 July 2015 to 30 June 2016 is available at **www.arc.gov.au.**

Disability reporting mechanism

Since 1994, Commonwealth departments and agencies have reported on their performance as policy adviser, purchaser, employer, regulator and provider under the Commonwealth Disability Strategy. In 2007–08, reporting on the employer role was transferred to the Australian Public Service Commission's State of the Service reports and the *APS Statistical Bulletin*. These reports are available on the APSC website: **www.apsc.gov.au**. From 2010–11, entities have no longer been required to report on these functions.

The Commonwealth Disability Strategy has been overtaken by the National Disability Strategy 2010–2020, which sets out a 10-year national policy framework to improve the lives of people with disability, promote participation and create a more inclusive society. A high-level, two-yearly report will track progress against each of the six outcome areas of the strategy and present a picture of how people with disability are faring. The first of these reports was published in 2014, and can be found at **www.dss.gov.au.**

Information Publication Scheme

Entities subject to the *Freedom of Information Act 1982* (FOI Act) are required to publish information to the public as part of the Information Publication Scheme (IPS). This requirement is in Part II of the FOI Act and has replaced the former requirement to publish a section 8 statement in an annual report. Each agency must display on its website a plan showing what information it publishes in accordance with the IPS requirements.

ARC information relating to the IPS is published on the ARC website at **www.arc.gov.au/information-publication-scheme**.

Correction of information published in previous annual reports

Under the Annual Report requirements, agencies are required to identify errors in their previous annual report. The ARC identified the following errors in the *ARC Annual Report 2014–15*.

The result for Measure 10 on page 69 was incorrect due to a transposition error. The correct figure for the proportion of completed Linkage research projects that reported the research supported higher degree by research students should be 75.9 per cent rather than 79.5 per cent. This error does not effect the outcome of this measure.

Information required by other legislation

Information required by other legislation is provided in Appendix 6 including:

- work health and safety (Schedule 2, Part 4 of the *Work Health and Safety Act 2011*)
- advertising and market research (section 311A of the *Commonwealth Electoral Act 1918*)
- ecologically sustainable development and environmental performance (section 516A of the *Environment Protection and Biodiversity Conservation Act 1999*).

The ARC is not defined as a 'public service care agency' and has no obligations under the *Carer Recognition Act 2010*.

PART 4

FINANCIAL STATEMENTS

4.1 FINANCIAL STATEMENTS

This section provides the financial statements for the ARC for the financial period ended 30 June 2016 (and the Auditor-General's report).

Australian National Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Minister for Education and Training

I have audited the accompanying annual financial statements of the Australian Research Council for the year ended 30 June 2016, which comprise:

- Statement by the Chief Executive and Chief Financial Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement;
- Administered Schedule of Comprehensive Income;
- Administered Schedule of Assets and Liabilities;
- Administered Reconciliation Schedule;
- Administered Cash Flow Statement; and
- Notes to the Financial Statements comprising an Overview, Summary of Significant Accounting Policies and other explanatory information.

Opinion

In my opinion, the financial statements of the Australian Research Council:

(a) comply with Australian Accounting Standards and the *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015*; and

(b) present fairly the financial position of the Australian Research Council as at 30 June 2016 and its financial performance and cash flows for the year then ended.

Accountable Authority's Responsibility for the Financial Statements

The Chief Executive of the Australian Research Council is responsible under the *Public Governance, Performance and Accountability Act 2013* for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards and the rules made under that Act and is also responsible for such internal control as the Chief Executive determines is necessary to enable the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's

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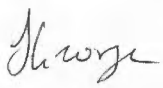
judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the Accountable Authority of the entity, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Independence

In conducting my audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

Australian National Audit Office



Jodi George
Audit Principal

Delegate of the Auditor-General

Canberra
7 September 2016

Australian Research Council

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Australian Research Council
Statement by the Chief Executive and Chief Financial Officer

In our opinion, the attached financial statements for the year ended 30 June 2016 comply with subsection 42(2) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act), and are based on properly maintained financial records as per subsection 41(2) of the PGPA

In our opinion, at the date of this statement, there are reasonable grounds to believe that the Australian Research Council (ARC) will be able to pay its debts as and when they fall due.

Signed.....

Aidan Byrne
Accountable Authority

7 September 2016

Signed.....

Julija Deleva
Chief Financial Officer

7 September 2016

Australian Research Council
Statement of Comprehensive Income
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget 2016 $'000
NET COST OF SERVICES				
Expenses				
Employee benefits	1.1A	**14,306**	13,212	14,019
Suppliers	1.1B	**4,111**	4,554	5,370
Depreciation and amortisation [1]	3.2A	**7,389**	3,487	3,989
Finance costs	1.1C	**342**	283	259
Write-Down and Impairment of Assets		**1**	-	-
Total expenses		**26,149**	21,536	23,637
Gains				
Other gains		**68**	131	88
Total gains		**68**	131	88
Total own-source income		**68**	131	88
Net (cost of) services		**(26,081)**	(21,405)	(23,549)
Revenue from government [2]	1.2A	**21,017**	19,750	19,560
Total comprehensive Income/(loss)		**(5,064)**	(1,655)	(3,989)

The above statement should be read in conjunction with the accompanying notes.

This statement represents the operating result for outcome 1. The ARC only has one outcome which is 'Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice.'

Budget Variances Commentary

The following commentary provides a comparison of the original budget as presented in the 2015-16 Portfolio Budget Statements (PBS) to the 2015-16 actuals.

Variances are considered to be material or major based on the following criteria:
- the variance between original budget and actual is greater than 2 million dollars of the line item; or
- the variance between original budget and actual is greater than 2 million dollars of total expenses, total income; assets, liabilities or equity; or
- an item below this threshold is considered important for the reader's understanding or is relevant to an assessment of the ARC's performance.

Statement of Comprehensive Income

1. The depreciation and amortisation expense variance arose mainly due to the completion of the Research Management System (RMS) intangible asset in 2015-16. The ageing and non-compatible IT applications of RMS that were assessed to no longer have a remaining useful life and amortisation was therefore accelerated. This accelerated amortisation was not reflected in the original budget which has led to the higher than budgeted expense in 2015-16.
2. The variance arose mainly due to the ARC receiving additional appropriation during 2015-16 MYEFO budget that was not anticipated in the original budget, for the National Innovation and Science Agenda - measuring research impact (p66 of 2015-16 Portfolio Additional Estimates Statements).

Australian Research Council
Statement of Financial Position
as at 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget 2016 $'000
ASSETS				
Financial assets				
Cash and cash equivalents	3.1A	**305**	295	299
Trade and other receivables [1]	3.1B	**14,373**	11,003	8,893
Total financial assets		**14,678**	11,298	9,192
Non-financial assets				
Buildings	3.2A	**2,027**	2,247	1,892
Plant and equipment [2]	3.2A	**922**	197	234
Computer software [3]	3.2A	**11,692**	16,066	16,348
Prepayments		**275**	293	318
Total non-financial assets		**14,916**	18,803	18,792
Total assets		**29,594**	30,101	27,984
LIABILITIES				
Payables				
Suppliers	3.3A	**405**	400	516
Other payables		**54**	440	-
Total payables		**459**	840	516
Interest bearing liabilities				
Finance leases [2]	3.4A	**3,026**	2,452	2,575
Total interest bearing liabilities		**3,026**	2,452	2,575
Provisions				
Employee provisions	6.1A	**3,996**	3,523	3,531
Other provisions	3.5A	**333**	267	322
Total provisions		**4,329**	3,790	3,853
Total liabilities		**7,814**	7,082	6,944
Net assets		**21,780**	23,019	21,040
EQUITY				
Contributed equity		**29,587**	25,762	29,587
Asset revaluation reserve		**43**	43	43
Accumulated deficit		**(7,850)**	(2,786)	(8,590)
Total equity		**21,780**	23,019	21,040

The above statement should be read in conjunction with the accompanying notes.

This statement represents the financial position of outcome 1. The ARC only has one outcome which is 'Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice.'

Budget Variances Commentary

The following commentary provides a comparison of the original budget as presented in the 2015-16 Portfolio Budget Statements (PBS) to the 2015-16 actuals.

Variances are considered to be material or major based on the following criteria:
- the variance between original budget and actual is greater than 2 million dollars of the line item; or
- the variance between original budget and actual is greater than 2 million dollars of total expenses, total income; assets, liabilities or equity; or
- an item below this threshold is considered important for the reader's understanding or is relevant to an assessment of the ARC's performance.

Statement of Financial Position

1. The variance arose mainly due to the ARC receiving additional appropriation during 2015-16 MYEFO budget that was not anticipated in the original budget, for the National Innovation and Science Agenda - measuring research impact (p66 of 2015-16 Portfolio Additional Estimates Statements).
2. The variance arose due to new finance leases for computer hardware that were not anticipated in the original budget.
3. The variance arose mainly due to the completion of the Research Management System (RMS) intangible asset in 2015-16. The ageing and non-compatible IT applications of RMS that were assessed to no longer have a remaining useful life and amortisation was therefore accelerated. This accelerated amortisation was not reflected in the original budget which has led to the lower than budgeted carrying value.

Australian Research Council

Statement of Changes in Equity

for the period ended 30 June 2016

	2016 $'000	2015 $'000	Original Budget 2016 $'000
CONTRIBUTED EQUITY			
Opening balance			
Balance carried forward from previous period	**25,762**	21,893	25,762
Transactions with owners			
Contributions by owners			
Equity injection - appropriations	**2,572**	1,264	2,572
Departmental capital budget	**1,253**	2,605	1,253
Total transactions with owners	**3,825**	3,869	3,825
Closing balance as at 30 June	**29,587**	25,762	29,587
ACCUMULATED DEFICIT			
Opening balance			
Balance carried forward from previous period	**(2,786)**	(1,131)	(4,601)
Comprehensive income			
Surplus/(Deficit) for the period	**(5,064)**	(1,655)	(3,989)
Total comprehensive income	**(5,064)**	(1,655)	(3,989)
Closing balance as at 30 June	**(7,850)**	(2,786)	(8,590)
ASSET REVALUATION RESERVE			
Opening balance			
Balance carried forward from previous period	**43**	43	43
Closing balance as at 30 June	**43**	43	43
TOTAL EQUITY			
Opening balance			
Balance carried forward from previous period	**23,019**	20,805	21,204
Adjustment for errors	**-**	-	
Adjusted opening balance	**23,019**	20,805	21,204
Comprehensive income			
Surplus/(Deficit) for the period	**(5,064)**	(1,655)	(3,989)
Total comprehensive income	**(5,064)**	(1,655)	(3,989)
Transactions with owners			
Contributions by owners			
Equity injection - appropriations	**2,572**	1,264	2,572
Departmental capital budget	**1,253**	2,605	1,253
Total transactions with owners	**3,825**	3,869	3,825
Closing balance as at 30 June	**21,780**	23,019	21,040

The above statement should be read in conjunction with the accompanying notes.

Accounting Policy

Equity Injections

Amounts appropriated which are designated as 'equity injections' for a year (less formal reductions) and Departmental Capital Budgets (DCBs) are recognised directly in contributed equity in that year.

Australian Research Council
Cash Flow Statement
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget 2016 $'000
OPERATING ACTIVITIES				
Cash received				
Appropriations		**17,900**	18,142	19,560
Net GST received		**714**	767	550
Other		**321**	129	-
Total cash received		**18,935**	19,038	20,110
Cash used				
Employees		**14,490**	13,021	14,019
Suppliers		**4,892**	5,493	5,282
Other		**276**	274	809
Total cash used		**19,658**	18,788	20,110
Net cash from/(used by) operating activities		**(723)**	250	-
INVESTING ACTIVITIES				
Cash used				
Purchase of property, plant and equipment		**43**	100	250
Purchase of intangibles		**2,539**	3,456	3,575
Total cash used		**2,582**	3,556	3,825
Net cash (used by) investing activities		**(2,582)**	(3,556)	(3,825)
FINANCING ACTIVITIES				
Cash received				
Contributed equity		**3,506**	3,425	3,825
Total cash received		**3,506**	3,425	3,825
Cash used				
Repayment of finance leases		**191**	123	-
Total cash used		**191**	123	-
Net cash from/(used by) financing activities		**3,315**	3,302	3,825
Net increase/(decrease) in cash held		**10**	(4)	-
Cash and cash equivalents at the beginning of the reporting period		**295**	299	299
Cash and cash equivalents at the end of the reporting period	3.1A	**305**	295	299

The above statement should be read in conjunction with the accompanying notes.

Australian Research Council
Administered Schedule of Comprehensive Income
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget 2016 $'000
NET COST OF SERVICES				
Expenses				
Suppliers [1]	2.1A	**14,025**	11,916	5,156
Grants [2]	2.1B	**756,525**	835,552	789,659
Total expenses		**770,550**	847,468	794,815
Income				
Revenue				
Non-taxation revenue				
Other revenue [3]	2.2A	**6,501**	8,106	-
Total non-taxation revenue		**6,501**	8,106	-
Total revenue		**6,501**	8,106	-
Net (cost of)/contribution by services		**(764,049)**	(839,362)	(794,815)
Surplus/(Deficit)		**(764,049)**	(839,362)	(794,815)
Total comprehensive income/(loss)		**(764,049)**	(839,362)	(794,815)

The above schedule should be read in conjunction with the accompanying notes.

This statement represents the result for outcome 1. The ARC only has one outcome which is 'Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice.'

Budget Variances Commentary

The following commentary provides a comparison of the original budget as presented in the 2015-16 Portfolio Budget Statements (PBS) to the 2015-16 actuals.

Variances are considered to be material or major based on the following criteria:
- the variance between original budget and actual is greater than 2 million dollars of the line item; or
- the variance between original budget and actual is greater than 2 million dollars of total expenses, total income; assets, liabilities or equity; or
- an item below this threshold is considered important for the reader's understanding or is relevant to an assessment of the ARC's performance.

Schedule of Comprehensive Income
1. A payment was made from the special appropriation to a non-corporate Commonwealth entity for research activity. This expense was treated as a supplier expense because it is a notional payment under section 76 of the PGPA Act and cannot be treated as a grant expense.
2. In addition to 1, grant expenses are lower than the original budget due to a movement of funds from 2015-16 to 2016-17.
3. Other revenue arose from the recovery of prior year unspent grant payments returned by the research sector. Under the *Australian Research Council Act 2001*, grant recipients are required to return unspent grant money to the ARC unless otherwise approved. Recovery revenue is not budgeted due to the uncertainty of the activities in the research sector and can vary from year to year.

Australian Research Council
Administered Schedule of Assets and Liabilities
as at 30 June 2016

	Notes	2016 $'000	2015 $'000	Original Budget 2016 $'000
ASSETS				
Financial assets				
Trade and other receivables	4.1A	**486**	477	1,315
Total financial assets		**486**	477	1,315
Non-financial assets				
Other non-financial assets	4.2A	**12**	192	248
Total non-financial assets		**12**	192	248
Total assets administered on behalf of Government		**498**	669	1,563
LIABILITIES				
Payables				
Grants [1]	4.3A	**296,908**	348,764	362,460
Other payables	4.3B	**88**	1,405	19
Total payables		**296,996**	350,169	362,479
Total liabilities administered on behalf of Government		**296,996**	350,169	362,479
Net assets/(liabilities)		**(296,498)**	(349,500)	(360,916)

The above schedule should be read in conjunction with the accompanying notes.

This statement represents the result for outcome 1. The ARC only has one outcome which is 'Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice.'

Budget Variances Commentary

The following commentary provides a comparison of the original budget as presented in the 2015-16 Portfolio Budget Statements (PBS) to the 2015-16 actuals.

Variances are considered to be material or major based on the following criteria:
- the variance between original budget and actual is greater than 2 million dollars of the line item; or
- the variance between original budget and actual is greater than 2 million dollars of total expenses, total income; assets, liabilities or equity; or
- an item below this threshold is considered important for the reader's understanding or is relevant to an assessment of the ARC's performance.

Schedule of Assets and Liabilities
1. This variance arose mainly due to actual grants awarded being lower than the original budget. This aligns to the decrease in funding limit in the *Australian Research Council Act 2001*.

Australian Research Council
Administered Reconciliation Schedule

	Notes	2016 $'000	2015 $'000
Opening assets less liabilities as at 1 July		**(349,500)**	(360,917)
Net (cost of)/contribution by services			
Income		**6,501**	8,106
Expenses		**(770,550)**	(847,468)
Transfers (to)/from the Australian Government			
Appropriation transfers from Official Public Account (OPA)			
Administered assets and liabilities appropriations			
Annual appropriations		**6,261**	2,474
Special appropriations (limited)	5.1C	**815,304**	859,564
Special accounts		**2,000**	-
Administered GST appropriations		**4,311**	4,166
Appropriation transfers to OPA			
Appropriations		**(6,525)**	(8,434)
Special Accounts		**-**	(2,000)
Return of GST appropriation to OPA		**(4,300)**	(4,991)
Closing assets less liabilities as at 30 June		**(296,498)**	(349,500)

The above schedule should be read in conjunction with the accompanying notes.

Australian Research Council
Administered Cash Flow Statement
for the period ended 30 June 2016

	Notes	2016 $'000	2015 $'000
OPERATING ACTIVITIES			
Cash received			
Net GST received		**4,300**	4,977
Other		**6,501**	8,106
Total cash received		**10,801**	13,083
Cash used			
Grants		**812,115**	852,792
Suppliers		**15,738**	11,070
Total cash used		**827,853**	863,862
Net cash from/(used by) operating activities	5.4B	**(817,052)**	(850,779)
Cash from Official Public Account (OPA)			
Appropriations		**821,565**	862,038
Special accounts		**2,000**	-
Administered GST appropriations		**4,311**	4,166
Total cash from official public account		**827,876**	866,204
Cash to Official Public Account (OPA)			
Appropriations		**(6,524)**	(8,434)
Special Accounts		**-**	(2,000)
Return of GST appropriation to OPA		**(4,300)**	(4,991)
Total cash to official public account		**(10,824)**	(15,425)
Cash and cash equivalents at the end of the reporting period		**-**	**-**

This schedule should be read in conjunction with the accompanying notes.

Overview

Objectives of the Australian Research Council

The Australian Research Council (ARC) is an Australian Government controlled entity. It is a not-for-profit entity. The ARC aims to grow knowledge and innovation in Australia by funding excellent research and research training through the National Competitive Grants Program; measuring the quality, engagement and impact of research; and providing advice on research matters.

The ARC is structured to meet one outcome which is 'Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice.'

The continued existence of the ARC in its present form and with its present programs is dependent on Government policy and on continuing funding by Parliament for the ARC's administration and programs.

The ARC activities contributing toward this outcome are classified as either departmental or administered. Departmental activities involve the use of assets, liabilities, income and expenses controlled or incurred by the ARC in its own right. Administered activities involve the management or oversight by the ARC, on behalf of the Government, of items controlled or incurred by the Government.

The ARC conducts the following administered activities on behalf of the Government:
- advancing Australian research and innovation by providing strategic policy advice to Government;
- managing the National Competitive Grants Program; and
- measuring research excellence at Australia's universities by conducting research evaluations.

The Basis of Preparation

The financial statements are general purpose financial statements and are required by section 42 of the *Public Governance, Performance and Accountability Act 2013* .

The financial statements have been prepared in accordance with:

a) *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015* (FRR) for reporting periods ending on or after 1 July 2015; and

b) Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position. The financial statements are presented in Australian dollars.

New Accounting Standards

Adoption of New Australian Accounting Standard Requirements
No accounting standard has been adopted earlier than the application date as stated in the standard.

No new standards were issued prior to the signing of the statement by the accountable authority and chief financial officer, were applicable to the current reporting period and had a material effect on the ARC's financial statements.

Future Australian Accounting Standard Requirements

The following new standards, interpretations and amending standards were issued by the Australian Accounting Standards Board prior to the signing of the statement by the accountable authority and chief financial officer, which are expected to have a material impact on the ARC's financial statements for future reporting period(s):

Standard/ Interpretation	Application date for the ARC[1]	Nature of impending change/s in accounting policy and likely impact on initial application
AASB 9 *Financial Instruments*	1-Jan-18	AASB 9 was reissued in December 2014 and now incorporates: - the classification and measurement requirements for financial assets (including limited amendments) and for financial liabilities, and the recognition and derecognition requirements for financial instruments (representing the first phase of the three phase project that replaces AASB 139); - requirements for impairment of financial assets (representing the second phase); and - hedge accounting (representing the third phase). Likely impact: May have an impact on the recognition and measurement of financial instruments. Final outcome will be considered once the project is completed.
AASB 124 *Related Party Disclosures*	1-Jul-16	The amendments extend the scope of AASB 124 to include application by not-for-profit public sector entities. Implementation guidance is included to assist application of the Standard by not-for-profit public sector entities. This Standard also makes related amendments to AASB 10 Consolidated Financial Statements and AASB 1049 Whole of Government and General Government Sector Financial Reporting, and an editorial correction to AASB 124. Likely impact: This amendment will impact the ARC's reporting requirements for Related Party transactions.
AASB 16 *Leases*	1-Jul-19	AASB 16 brings more leases onto the balance sheet of lessees, thereby increasing the transparency surrounding such arrangements and making the lessee's balance sheet better reflect the economics of its transactions. Likely impact: May have an impact on the treatment of future lease agreements.

1. The ARC's expected initial application date is when the accounting standard becomes operative at the beginning of the ARC's reporting period.

All other new standards, interpretations and amending standards that were issued prior to the sign-off date and are applicable to future reporting periods are not expected to have a future material impact on the ARC's financial statements.

Taxation

The ARC is exempt from all forms of taxation except Fringe Benefits Tax (FBT) and the Goods and Services Tax (GST).

Reporting of Administered activities

Administered revenues, expenses, assets, liabilities and cash flows are disclosed in the administered schedules and related notes.

Except where otherwise stated below, administered items are accounted for on the same basis and using the same policies as for departmental items, including the application of Australian Accounting Standards.

Events After the Reporting Period

Departmental

No departmental events have occurred after the reporting period that have the potential to significantly affect the ongoing structure and financial activities of the ARC.

Administered

No administered events have occurred after the reporting period that have the potential to significantly affect the ongoing structure and financial activities of the ARC.

Breach of Section 83 of the Constitution

Section 83 of the Constitution provides that no amount may be paid out of the Consolidated Revenue Fund (CRF) except under an appropriation made by law.

The Department of Finance provided information to all agencies in 2013 regarding the need for risk assessments in relation to compliance with statutory conditions on payments from special appropriations, including special accounts.

During 2015-16 there were no known instances of non-compliance with section 83 of the Constitution.

Financial Performance

1.1 Expenses

	2016 $'000	2015 $'000
1.1A: Employee Benefits		
Wages and salaries	**10,030**	9,363
Superannuation:		
Defined contribution plans	**312**	307
Defined benefit plans	**1,773**	1,644
Leave and other entitlements	**1,462**	1,147
Separation and redundancies	**136**	227
Other employee benefits	**593**	524
Total employee benefits	**14,306**	13,212

Accounting Policy
Accounting policies for employee related expenses is contained in the People and relationships section.

1.1 Expenses (continued)

	2016 $'000	2015 $'000
1.1B: Suppliers		
Goods and services supplied or rendered		
Consultants	**800**	1,185
Contractors	**395**	411
Travel	**217**	441
IT services	**341**	368
Other [1]	**770**	734
Total goods and services supplied or rendered	**2,523**	3,139
Goods Supplied	**738**	687
Services Supplied	**1,785**	2,452
Total goods and services supplied or rendered	**2,523**	3,139

1. Other includes media monitors, subscriptions; printing, photocopier, telephone costs, staff training, staff study assistance costs, recruitment charges, office consumables and stationary, hire of equipment and comcover premium payments.

Other suppliers		
Operating lease rentals in connection with		
Minimum lease payments	**1,419**	1,210
Workers compensation expenses	**169**	204
Total other suppliers	**1,588**	1,414
Total suppliers	**4,111**	4,554

Leasing commitments

In 2016, Operating leases existed in relation to the lease for office accommodation and arrangement for the provision of motor vehicles to senior executive officers. The office accommodation leases are non-cancellable and for a fixed term of 15 years (since September 2010). Lease payments are subject to annual increase of 4.25%. The last increase was in September 2015.

No contingent rentals exists. There are no renew or purchase options available to the ARC.

Commitments for minimum lease payments in relation to non-cancellable operating leases are payable as follows:		
Within 1 year	**1,657**	1,605
Between 1 to 5 years	**7,241**	6,945
More than 5 years	**6,830**	8,755
Total operating lease commitments	**15,728**	17,305

Accounting Policy
Where an asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the inception of the contract and a liability is recognised at the same time and for the same amount.

The discount rate used is the interest rate implicit in the lease. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

The ARC has a finance lease for the office fitout that is non-cancellable. Additional finance leases were entered into in 2015-16 for computer hardware.

Operating lease payments are expensed on a straight-line basis which is representative of the pattern of benefits derived from the leased assets.

1.1 Expenses (continued)

	2016 $'000	2015 $'000
1.1C: Finance Costs		
Finance leases	**276**	274
Unwinding of discount	**8**	9
Revaluation of make-good	**58**	-
Total finance costs	**342**	283

Accounting Policy
All borrowing costs are expensed as incurred.

1.2 Own Source Revenue and gains

	2016 $'000	2015 $'000
1.2A: Revenue from Government		
Appropriations		
Departmental appropriations	**21,017**	19,750
Total revenue from Government	**21,017**	19,750

Accounting Policy
Revenue from Government
Amounts appropriated for departmental appropriations for the year (adjusted for any formal additions and reductions) are recognised as Revenue from Government when the entity gains control of the appropriation, except for certain amounts that relate to activities that are reciprocal in nature, in which case revenue is recognised only when it has been earned. Appropriations receivable are recognised at their nominal amounts.

Income and Expenses Administered on Behalf of Government

2.1 Administered Expenses

	2016 $'000	2015 $'000
2.1A: Suppliers		
Goods and services supplied or rendered		
Consultants	**2,462**	1,529
Contractors	**1,258**	1,543
Travel	**719**	347
IT Services	**9**	5
Other	**9,577**	8,492
Total goods and services supplied or rendered	**14,025**	11,916
Goods supplied	**181**	281
Services rendered	**13,844**	11,635
Total goods and services supplied or rendered	**14,025**	11,916
2.1B: Grants		
Public sector		
Australian Government entities (related entities)	**1,584**	2,686
State and Territory Governments	**659,342**	730,936
Commonwealth educational institutions (related entities)	**62,454**	69,245
Private sector		
Other research organisations	**33,145**	32,685
Total grants	**756,525**	835,552

Accounting Policy

Grants

The ARC administers a number of grant schemes on behalf of the Government. Grant liabilities are recognised to the extent that the grant eligibility criteria or reporting requirements have been satisfied, but payments due have not been made (Refer to Note 4.3). When the Minister approves grants within the limits of the *Australian Research Council Act 2001* but services have not been performed or criteria satisfied, this is considered a commitment.

2.2: Administered Income

	2016 $'000	2015 $'000
Revenue		
Non–Taxation Revenue		
2.2A: Administered Other Revenue		
Recovery of prior year unspent grant payments	**6,501**	8,106
Total other revenue	**6,501**	8,106

Accounting Policy
All administered revenues are revenues relating to ordinary activities performed by the ARC on behalf of the Australian Government. As such, administered appropriations are not revenues of the ARC that oversees distribution or expenditure of the funds as directed.

Other revenue relate to the prior year unspent grant payments. Under the *Australian Research Council Act 2001,* grant recipients are required to return unspent grant money to the ARC unless otherwise approved.

Other revenue are recognised when unspent grant money is identified during the acquittal process. When these revenues are collected by the ARC they are then returned to the OPA.

Financial Position

3.1 Financial Assets

	2016 $'000	2015 $'000
3.1A: Cash and Cash Equivalents		
Cash on hand or on deposit	**305**	295
Total cash and cash equivalents	**305**	295

Accounting Policy
Cash is recognised at its nominal amount. Cash and cash equivalents includes cash on hand or on deposit.

3.1B: Trade and Other Receivables		
Goods and services receivables		
Goods and services	**-**	35
Total goods and services receivables	**-**	35
Appropriations receivables		
Appropriations receivable	**14,324**	10,887
Total appropriations receivables	**14,324**	10,887
Other receivables		
GST receivable from the Australian Taxation Office	**49**	81
Total other receivables	**49**	81
Total trade and other receivables (net)	**14,373**	11,003
Trade and other receivables (net) expected to be recovered		
No more than 12 months	**14,373**	11,003
Total trade and other receivables (net)	**14,373**	11,003
Trade and other receivables (net) aged as follows		
Not overdue	**14,373**	11,003
Total trade and other receivables (net)	**14,373**	11,003

Receivables for goods and services, which have 30 day terms, are recognised at the nominal amounts due less any impairment allowance account. Collectability of debts is reviewed at end of reporting period. Allowances are made when collectability of the debt is no longer probable.

Accounting Policy
Loans and Receivables
Trade receivables, loans and other receivables that have fixed or determinable payments and that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment.

3.2: Non Financial Assets

3.2A: Reconciliation of the Opening and Closing Balances of Buildings, Plant and Equipment and Computer Software

Reconciliation for 2016

	Buildings [1] $'000	Plant & equipment $'000	Computer Software [2] $'000	Total $'000
As at 1 July 2015				
Gross book value	**2,917**	**607**	**30,012**	**33,536**
Accumulated depreciation, amortisation and impairment	**(670)**	**(410)**	**(13,946)**	**(15,026)**
Total as at 1 July 2015	**2,247**	**197**	**16,066**	**18,510**
Additions				
Purchase	**7**	**35**	**-**	**42**
Internal developed	**-**	**-**	**2,715**	**2,715**
Finance lease [3]	**-**	**764**	**-**	**764**
Depreciation and amortisation	**(227)**	**(73)**	**(7,089)**	**(7,389)**
Disposals				**-**
Other (gross book value)	**-**	**(6)**	**-**	**(6)**
Other (accumulated depreciation)	**-**	**5**	**-**	**5**
Total as at 30 June 2016	**2,027**	**922**	**11,692**	**14,641**
Total as at 30 June 2016 represented by				
Gross book value	**2,924**	**1,400**	**32,727**	**37,051**
Accumulated depreciation, amortisation and impairment	**(897)**	**(478)**	**(21,035)**	**(22,410)**
Total as at 30 June 2016	**2,027**	**922**	**11,692**	**14,641**

1. The carrying amount of $2,026,921 (2014-15: $2,246,504) of total leasehold improvements refers to the ARC's office premises fitout.
2. The carrying amount of computer software included $2,427 purchased software and $11,689,230 internally generated software.
3. Plant and equipment under finance leases were subject to materiality review. The carrying amount of $747,539 (2014-2015: nil) is included in the valuation figures above.

No indicators of impairment were found for plant and equipment and intangibles.
No buildings, plant and equipment and computer software are expected to be sold or disposed of within the next 12 months.

Reconciliation for 2015

	Buildings $'000	Plant & equipment $'000	Computer Software $'000	Total $'000
As at 1 July 2014				
Gross book value	2,904	520	26,354	29,778
Accumulated depreciation, amortisation and impairment	(444)	(306)	(10,789)	(11,539)
Total as at 1 July 2014	2,460	214	15,565	18,239
Additions				
Purchase	13	87	-	100
Internal developed	-	-	3,658	3,658
Depreciation and amortisation	(226)	(104)	(3,157)	(3,487)
Total as at 30 June 2015	2,247	197	16,066	18,510
Total as at 30 June 2015 represented by				
Gross book value	2,917	607	30,012	33,536
Accumulated depreciation, amortisation and impairment	(670)	(410)	(13,946)	(15,027)
Total as at 30 June 2015	2,247	197	16,066	18,510

Accounting policy
Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and income at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor's accounts immediately prior to the restructuring.

Asset Recognition Threshold
Purchases of plant and equipment are recognised initially at cost in the Statement of Financial Position, except for purchases costing less than $2,000, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

The initial cost of an asset includes an estimate of the cost of dismantling and removing the item and restoring the site on which it is located. This is particularly relevant to 'make good' provisions in property leases taken up by the ARC where there exists an obligation to restore the property to its original condition. These costs are included in the value of ARC's leasehold improvements with a corresponding provision for the 'make good' recognised.

Revaluations
Following initial recognition at cost, plant and equipment are carried at fair value less subsequent accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depends upon the volatility of movements in market values for the relevant assets.

Revaluation adjustments are made on a class basis. Any revaluation increment was credited to equity under the heading of asset revaluation reserve except to the extent that it reversed a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets are recognised directly in the surplus/deficit except to the extent that they reversed a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date was eliminated against the gross carrying amount of the asset and the asset was restated to the revalued amount.

Depreciation
Depreciable plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to the ARC using, in all cases, the straight-line method of depreciation.

Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

	2016	2015
Leasehold improvements	Lease Term	Lease Term
Plant and equipment	2 to 10 years	2 to 10 years

Impairment
All assets were assessed for impairment at 30 June 2016. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs of disposal and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the ARC were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition
An item of plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal.

Intangibles
The ARC's intangibles comprise internally developed and purchased software for internal use. These assets are carried at cost less accumulated amortisation and accumulated impairment losses.

The ARC's internally developed software includes directly attributable overhead costs which meet the recognition criteria in AASB 138.

Software is amortised on a straight-line basis over its anticipated useful life. The useful lives for the ARC's software are 2 to 10 years (2015: 2 to 10 years).

All software assets were assessed for indications of impairment as at 30 June 2016.

3.3 Payables

	2016 $'000	2015 $'000
3.3A: Suppliers		
Trade creditors and accruals	**405**	400
Total suppliers	**405**	400
Suppliers expected to be settled		
No more than 12 months	**405**	400
Total suppliers	**405**	400

Settlement was usually made within 30 days.

3.4 Interest Bearing Liabilities

	2016 $'000	2015 $'000
3.4A: Leases		
Finance leases	**3,026**	2,452
Total leases	**3,026**	2,452
Minimum leases expected to be settled		
Within 1 year		
Present value of minimum lease payment	**594**	397
Future finance charge	**(282)**	(259)
Between 1 to 5 years		
Present value of minimum lease payment	**2,201**	1,590
Future finance charge	**(835)**	(861)
More than 5 years		
Present value of minimum lease payment	**1,689**	2,087
Future finance charge	**(341)**	(502)
Total leases	**3,026**	2,452

In 2016, Finance leases existed in relation to the ARC's office premises fitout (since September 2010) and computer hardware.

The office premises fitout leases are non-cancellable and for a fixed term of 15 years. The interest rate implicit in the leases is 11% (2014-15: 11%). The lease assets secure the lease liabilities. The ARC guarantees the residual values of all assets leased.

Remaining repayments for computer hardware leases are $712,002 in total and will be paid by instalments until April 2021.

Accounting Policy
Finance leases effectively transfer from the lessor to the lessee substantially all the risks and rewards incidental to ownership of leased assets.

Where an asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the inception of the contract and a liability is recognised at the same time and for the same amount.

The discount rate used is the interest rate implicit in the lease. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a straight-line basis which is representative of the pattern of benefits derived from the leased assets.

3.5 Other Provisions

3.5A: Other Provisions

	2016 $'000	2015 $'000
	Provision for restoration $'000	**Total $'000**
As at 1 July 2015	**267**	322
Unwinding of discount	**8**	9
Change in discount rate	**58**	(64)
Total as at 30 June 2016	**333**	267
Other provisions expected to be settled		
More than 12 months	**333**	267
Total other provisions	**333**	267

As at 30 June 2016 the ARC had one agreement for the leasing of premises which has a provision requiring the ARC to restore the premises to their original condition at the conclusion of the lease. The ARC has made a provision to reflect the present value of this obligation.

Assets and Liabilities Administered on Behalf of the Government

4.1 Administered Financial Assets

	2016 $'000	2015 $'000
4.1A: Trade and Other Receivables		
GST receivable from Australian Taxation Office	**486**	477
Total goods and services receivables	**486**	477

All receivables are current assets and not overdue. Credit terms are net 30 days (2014-15: 30 days).

4.2: Administered Non Financial Assets

	2016 $'000	2015 $'000
4.2A: Other Non-Financial Assets		
Prepayments	**12**	192
Total other non-financial assets	**12**	192
Other non-financial assets expected to be recovered		
No more than 12 months	**12**	192
Total other non-financial assets	**12**	192

No indicators of impairment found for other non-financial assets.

4.3 Administered Payables

	2016 $'000	2015 $'000
4.3A: Grants		
Public sector		
Australian Government entities (related entities)	**716**	1,270
State and Territory Governments	**267,903**	311,777
Commonwealth educational institutions (related entities)	**26,333**	32,153
Private sector		
Other research organisations	**1,956**	3,564
Total grants	**296,908**	348,764
Grants expected to be settled		
No more than 12 months	**296,908**	348,764
Total grants	**296,908**	348,764

Settlement is in accordance with the terms and conditions of each grant which is consistent with the payment schedule determined by the Minister under the *Australian Research Council Act 2001* .

Accounting Judgements and Estimates

Grants

The ARC recognises a liability for grant funding which is unpaid as at reporting date. Management has made a significant judgement that there are limited options not to pay out the entire remaining grants or enforce recovery until the recipient acquits the funds.

4.3B: Other Payables		
Other	**88**	1,405
Total other payables	**88**	1,405
Other payables expected to be settled		
No more than 12 months	**88**	1,405
Total other payables	**88**	1,405

Funding

5.1 Appropriations

5.1A: Annual Appropriations ('Recoverable GST exclusive')

Annual Appropriations for 2016

	Appropriation Act		*PGPA Act*				
	Annual Appropriation [1] $'000	Advance to the Finance Minister $'000	Section 74 Receipts $'000	Section 75 Transfers $'000	Total appropriation $'000	Appropriation applied in 2016 (current and prior years) $'000	Variance [2] $'000
Departmental							
Ordinary annual services	**21,017**	**-**	**-**	**-**	**21,017**	**17,900**	**3,117**
Capital Budget [3]	**1,253**	**-**	**-**	**-**	**1,253**	**1,365**	**(112)**
Other services							
Equity Injections	**2,572**	**-**	**-**	**-**	**2,572**	**2,141**	**431**
Total departmental	**24,842**	**-**	**-**	**-**	**24,842**	**21,406**	**3,436**
Administered							
Ordinary annual services							
Administered items	**5,707**	**-**	**-**	**-**	**5,707**	**6,238**	**(531)**
Total administered	**5,707**	**-**	**-**	**-**	**5,707**	**6,238**	**(531)**

1. During 2015-16, $0.536 million of Administered 2014-15 annual appropriations was identified to be withheld and quarantined under Section 51 of the PGPA Act.
2. The variance arose mainly due to the ARC receiving additional appropriation during 2015-16 MYEFO budget that was not anticipated in the original budget, for the National Innovation and Science Agenda - measuring research impact (p66 of 2015-16 Portfolio Additional Estimates Statements). Appropriation applied in 2015-16 was less than the appropriation received mainly due to unforeseen delays in implementation of 2015-16 MYEFO budget measure.
3. Departmental Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts.

5.1 Appropriations (continued)

5.1A: Annual Appropriations ('Recoverable GST exclusive')

Annual Appropriations for 2015

	Appropriation Act		*PGPA Act*				
	Annual Appropriation[1] $'000	Advance to the Finance Minister $'000	Section 74 Receipts $'000	Section 75 Transfers $'000	Total appropriation $'000	Appropriation applied in 2015 (current and prior years) $'000	Variance $'000
Departmental							
Ordinary annual services	19,761	-	-	-	19,761	18,128	1,633
Capital Budget[3]	1,264	-	-	-	1,264	1,282	(18)
Other services							
Equity Injections	2,605	-	-	-	2,605	1,948	657
Total departmental	23,630	-	-	-	23,630	21,358	2,272
Administered							
Ordinary annual services							
Administered items	5,397	-	-	-	5,397	2,249	3,148
Total administered	5,397	-	-	-	5,397	2,249	3,148

1. During 2014-15, $0.011 million of Departmental 2014-15 annual appropriations have been quarantined under Section 51 of the PGPA Act.
2. Appropriation applied in 2014-15 was less than the appropriation received mainly due to unforeseen delays in the implementation of the web redevelopment, reviews and committee meetings.
3. Departmental Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts.

5.1 Appropriations (continued)

5.1B: Unspent Annual Appropriations ('Recoverable GST exclusive')

	2016 $'000	2015 $'000
Departmental		
Appropriation Act 1 (2013/14)	-	12
Appropriation Act 1 (2014/15)	-	10,135
Appropriation Act 2 (2014/15)	-	740
Appropriation Act 1 (2015/16)	**11,734**	-
Appropriation Act 2 (2015/16)	**1,171**	-
Appropriation Act 3 (2015/16)	**1,419**	-
Total departmental	**14,324**	10,887
Administered		
Appropriation Act 1 (2014/15) [1]	**536**	3,025
Appropriation Act 1 (2015/16)	**1,419**	-
Appropriation Act 3 (2015/16)	**539**	-
Total administered	**2,494**	3,025

1. During 2015-16, $0.536 million of Administered 2014-15 annual appropriations was identified to be withheld and quarantined under Section 51 of the PGPA Act.

5.1C Special Appropriations ('Recoverable GST exclusive')

	Appropriation applied	
	2016 $'000	2015 $'000
Australian Research Council Act 2001 s.49 , Administered, limit $815,521,000 for the current reporting period, remaining appropriation lapsed on 30 June 2016.	**815,304**	852,898
Total special appropriations applied	**815,304**	852,898

5.2 Special Accounts		
ARC Research Endowment Account (Administered) [1]	**2,016 $'000**	2,015 $'000
Balance brought forward from previous period	**2,000**	6,667
Increases		
Appropriation credited to special account	**7,000**	10,000
Available for payments	**9,000**	16,667
Decreases		
Payments made to research institutions	**(9,000)**	(14,667)
Total balance carried to the next period	**-**	2,000

1. Appropriation: *Public Governance, Performance and Accountability Act 2013 section 7*8; or *Public Governance, Performance and Accountability Act 2013* section 80.
2. Establishing Instrument: *Australian Research Council Act 2001 section 62.*
3. Purpose: To provide financial assistance to organisations for eligible research programs.

5.3 Net Cash Appropriation Arrangements

	2016 $'000	2015 $'000
Total comprehensive income/(loss) less depreciation/amortisation expenses previously funded through revenue appropriations[1]	**2,325**	1,832
Plus: depreciation/amortisation expenses previously funded through revenue appropriation	**(7,389)**	(3,487)
Total comprehensive income/(loss) - as per the Statement of Comprehensive Income	**(5,064)**	(1,655)

1. From 2010-11, the Government introduced net cash appropriation arrangements, where revenue appropriations for depreciation/amortisation expenses ceased. Entities now receive a separate capital budget provided through equity appropriations. Capital budgets are to be appropriated in the period when cash payment for capital expenditure is required.

5.4 Cash Flow Reconciliation

5.4A: Cash Flow Reconciliation

	2016 $'000	2015 $'000
Reconciliation of cash and cash equivalents as per statement of financial position to cash flow statement		
Cash and cash equivalents as per		
Cash flow statement	**305**	295
Statement of financial position	**305**	295
Discrepancy	**-**	-
Reconciliation of net cost of services to net cash from/(used by) operating activities		
Net cost of services	**(26,080)**	(21,405)
Revenue from Government	**21,017**	19,750
Adjustments for non-cash items		
Depreciation/amortisation	**7,389**	3,487
Net write down of non-financial assets	**1**	-
Return on capital & capital Adjustment	**143**	242
Movements in assets and liabilities		
Assets		
(Increase)/Decrease in net receivables	**(3,370)**	(2,110)
(Increase)/Decrease in other non-financial assets	**17**	26
Liabilities		
Increase/(Decrease) in employee provisions	**473**	326
Increase/(Decrease) in suppliers	**5**	(53)
Increase/(Decrease) in other payables	**(385)**	42
Increase/(Decrease) in other provisions	**67**	(55)
Net cash from/(used by) operating activities	**(723)**	250

5.4 Cash Flow Reconciliation (continued)

5.4B: Administered - Cash Flow Reconciliation

	2016 $'000	2015 $'000
Reconciliation of cash and cash equivalents as per statement of financial position and cash flow statement		
Cash and cash equivalents as per		
Administered cash flow statement	**-**	-
Administered schedule of assets and liabilities	**-**	-
Discrepancy	**-**	-
Reconciliation of net cost of services to net cash used by operating activities		
Net cost of services	**(764,049)**	(839,362)
Movements in assets and liabilities		
Assets		
(Increase)/Decrease in trade and other receivables	**(8)**	838
(Increase)/Decrease in other non-financial assets	**180**	56
Liabilities		
Increase/(Decrease) in grants	**(51,856)**	(13,712)
Increase/(Decrease) in other payables	**(1,319)**	1,401
Net cash (used by) operating activities	**(817,052)**	(850,779)

People and relationships

6.1 Employee Provisions

	2016 $'000	2015 $'000
6.1A: Employee Provisions		
Leave	**3,996**	3,523
Total employee provisions	**3,996**	3,523
Employee provisions are expected to be settled		
No more than 12 months	**3,288**	2,786
More than 12 months	**708**	737
Total employee provisions	**3,996**	3,523

Accounting policy
Liabilities for 'short-term employee benefits' (as defined in AASB 119 *Employee Benefits*) and termination benefits expected within twelve months of the end of the reporting period are measured at their nominal amounts. The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability.

Other long-term employee benefits are measured as the net total of the present value of the defined benefit obligation at the end of the reporting period minus the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly.

Leave
The liability for employee benefits includes provision for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting.

The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will be applied at the time the leave is taken, including the ARC's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability for long service leave is recognised and measured at the present value of the estimated future cash flows to be made in respect of all employees at 30 June 2016. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Separation and Redundancy
As at 30 June 2016 the ARC did not have any provisions for separation and redundancy benefit payments.

Superannuation
The ARC's staff are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS) or the PSS accumulation plan (PSSap).

The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported by the Department of Finance's administered schedules and notes.

The ARC makes employer contributions to the employees' superannuation schemes at rates determined by an actuary to be sufficient to meet the current cost to the Government. The ARC accounts for the contributions as if they were contributions to defined contribution schemes.

The liability for superannuation recognised as at 30 June 2016 represents outstanding contributions for the final fortnight of the year.

Accounting Judgements and Estimates
Employee provisions are dependent on management assumptions for their measurement.

No accounting assumptions or estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets and liabilities within the next reporting period.

6.2 Senior Management Personnel Remuneration

	2016 $'000	2015 $'000
Short-term employee benefits		
Salary	**1,219**	1,250
Motor vehicle and other allowances	**163**	131
Total short-term employee benefits	**1,382**	1,382
Post-employment benefits		
Superannuation	**242**	229
Total post-employment benefits	**242**	229
Other long-term employee benefits		
Annual leave	**102**	101
Long-service leave	**27**	33
Total other long-term employee benefits	**129**	135
Total senior executive remuneration expenses	**1,753**	1,745

The total number of senior management personnel that are included in the above table are 7 individuals (2014-15: 7 individuals).

Managing uncertainties

7.1 Contingent Assets and Liabilities

There were no Departmental and Administered contingent assets and liabilities in 2015-16 for the ARC (2014-15: nil).

Accounting Policy
Contingent liabilities and contingent assets are not recognised in the statement of financial position but are reported in the notes. They may arise from uncertainty as to the existence of a liability or asset or represent an asset or liability in respect of which the amount cannot be reliably measured.

Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when settlement is greater than remote.

7.2 Financial Instruments

	2016 $'000	2015 $'000
7.2A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash and cash equivalents	**305**	295
Trade and other receivables	**-**	35
Total loans and receivables	**305**	330
Total financial assets	**305**	330
Financial Liabilities		
Financial liabilities measured at amortised cost		
Suppliers	**405**	400
Other payables	**54**	17
Finance leases	**3,026**	2,452
Total financial liabilities measured at amortised cost	**3,485**	2,869
Total financial liabilities	**3,485**	2,869

Accounting Policy

Financial assets

The ARC classifies its financial assets in the following categories:

a) financial assets at fair value through profit or loss;
b) held-to-maturity investments;
c) available-for-sale financial assets; and
d) loans and receivables.

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Financial assets are recognised and derecognised upon trade date.

Effective Interest Method

Income is recognised on an effective interest rate basis except for financial assets that are recognised at fair value through profit or loss.

Financial Assets at Fair Value Through Profit or Loss

Financial assets are classified as financial assets at fair value through profit or loss where the financial assets:

- have been acquired principally for the purpose of selling in the near future; or
- are parts of an identified portfolio of financial instruments that the entity manages together and has a recent actual pattern of short-term profit-taking.

Assets in this category are classified as current assets.

Financial assets at fair value through profit or loss are stated at fair value, with any resultant gain or loss recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest earned on the financial asset.

Impairment of Financial Assets

Financial assets are assessed for impairment at the end of each reporting period.

Financial assets held at amortised cost - if there is objective evidence that an impairment loss has been incurred for loans and receivables or held to maturity investments held at amortised cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount is reduced by way of an allowance account. The loss is recognised in the Statement of Comprehensive Income.

Available for sale financial assets - if there is objective evidence that an impairment loss on an available-for-sale financial asset has been incurred, the amount of the difference between its cost, less principal repayments and amortisation, and its current fair value, less any impairment loss previously recognised in expenses, is transferred from equity to the Statement of Comprehensive Income.

Financial assets held at cost - if there is objective evidence that an impairment loss has been incurred, the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows discounted at the current market rate for similar assets.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities. Financial liabilities are recognised and derecognised upon 'trade date'.

Financial Liabilities at Fair Value Through Profit or Loss

Financial liabilities at fair value through profit or loss are initially measured at fair value. Subsequent fair value adjustments are recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest paid on the financial liability.

Other Financial Liabilities

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These financial liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

Supplier and other payables are expected to be settled within 12 months. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

7.2 Financial Instruments (continued)

	2016 $'000	2015 $'000
7.2B: Net Gains or Losses on Financial Liabilities		
Financial liabilities measured at amortised cost		
Interest expense	**342**	283
Net gains/(losses) on financial liabilities measured at amortised cost	**342**	283

The total interest expense from financial liabilities not at fair value through profit or loss was $342,369 (2014-15: $282,623).

7.2C: Fair Value of Financial Instruments

	Carrying amount 2016 $'000	Fair value 2016 $'000	Carrying amount 2015 $'000	Fair value 2015 $'000
Financial Assets				
Cash at bank	**305**	**305**	295	295
Trade and other receivables	**-**	**-**	35	35
Total financial assets	**305**	**305**	330	330
Financial Liabilities				
Suppliers	**405**	**405**	400	400
Other payables	**54**	**54**	17	17
Finance leases	**3,026**	**3,026**	2,452	2,452
Total financial liabilities	**3,485**	**3,485**	2,869	2,869

7.2D: Credit Risk

The ARC's maximum exposures to credit risk at reporting date in relation to each class of recognised financial assets is the carrying amount of those assets as indicated in the Statement of Financial Position.

The ARC has no significant exposures to any concentrations of credit risk. The ARC manages its credit risk by undertaking background checks as required prior to allowing a debtor relationship. In addition, the ARC has policies and procedures that guide employees' debt recovery techniques that are to be applied.

The figures for credit risk do not take into account the value of any collateral or other security.

Credit quality of financial assets not past due or individually determined as impaired

	Not past due nor impaired 2016 $'000	Not past due nor impaired 2015 $'000	Past due or impaired 2016 $'000	Past due or impaired 2015 $'000
Cash at bank	**305**	295	**-**	-
Trade and other receivables	**-**	35	**-**	-
Total	**305**	330	**-**	-

7.2 Financial Instruments (continued)

7.2E: Liquidity Risk

The ARC's financial liabilities were payables and finance lease. The exposure to liquidity risk was based on the notion that the ARC will encounter difficulty in meeting its obligations associated with financial liabilities. This was highly unlikely as the ARC is appropriated funding from the Australian Government and the ARC manages its budgeted funds to ensure it has adequate funds to meet payments as they fall due. In addition, the ARC has policies in place to ensure timely payments were made when due and has no past experience of default.

Maturities for non-derivative financial liabilities in 2016

	On demand	within 1 year	between 1 to 2 years	between 2 to 5 years	more than 5 years	Total
	$'000	$'000	$'000	$'000	$'000	$'000
Suppliers	-	405	-	-	-	405
Other payables	-	54	-	-	-	54
Finance leases	-	593	593	1,609	1,689	4,484
Total	-	1,052	593	1,609	1,689	4,943

Maturities for non-derivative financial liabilities in 2015

	On demand	within 1 year	between 1 to 2 years	between 2 to 5 years	more than 5 years	Total
	$'000	$'000	$'000	$'000	$'000	$'000
Suppliers	-	400	-	-	-	400
Other payables	-	17	-	-	-	17
Finance leases	-	397	397	1,193	2,087	4,074
Total	-	814	397	1,193	2,087	4,491

The ARC has no derivative financial liabilities in both the current and prior year.

7.2F: Market Risk

The ARC held basic financial instruments that did not expose the ARC to certain market risks. The ARC was not exposed to 'Currency risk' or 'Other price risk'.

Interest rate risk

The only interest-bearing item on the Statement of Financial Position are the 'Finance leases'. They bear interest at a fixed interest rate and do not fluctuate due to changes in the market interest rate.

7.3 Administered Financial Instruments		
	2016	2015
	$'000	$'000
7.3A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash and cash equivalents	**-**	-
Total loans and receivables	**-**	-
Total financial assets	**-**	-
Financial Liabilities		
Financial liabilities measured at amortised cost		
Grants	**296,908**	348,764
Other payables	**88**	1,405
Total financial liabilities measured at amortised cost	**296,996**	350,169
Total financial liabilities	**296,996**	350,169

7.3 Administered Financial Instruments (continued)

7.3B: Fair Value of Financial Instruments

	Carrying amount 2016 $'000	Fair value 2016 $'000	Carrying amount 2015 $'000	Fair value 2015 $'000
Financial Liabilities				
Grants	**296,908**	**296,908**	348,764	348,764
Other payables	**88**	**88**	1,405	1,405
Total financial liabilities	**296,996**	**296,996**	350,169	350,169

Financial Liabilities
The net fair value for grants and other payables are short-term in nature and are approximated by their carrying amounts.

7.3C: Credit Risk

The ARC's administered activities maximum exposures to credit risk at reporting date in relation to each class of recognised administered financial assets is the carrying amount of those assets as indicated in the Schedule of Administered Items.

The administered activities of the ARC have no significant exposures to any concentration of credit risk. The ARC manages its risks by undertaking background checks as required prior to allowing a debtor relationship. In addition, the ARC has policies and procedures that guide the employees debt recovery techniques that are to be applied.

The figures for credit risk do not take into account the value of any collateral or other security.

7.3D: Liquidity Risk

The ARC's administered financial liabilities are grants and other payables. The ARC has a low liquidity risk due to appropriation funding from Government. In addition, the ARC has internal policies and procedures in place to ensure that there are appropriate resources to meet its financial obligations and timely payments are made when due.

The ARC's administered financial liabilities will mature within 1 year.

7.2E: Market Risk

The ARC holds basic financial instruments that do not expose the ARC to 'Currency risk', 'Interest rate risk' and 'Other price risk'.

7.4 Fair Value Measurement

The following tables provide an analysis of assets and liabilities that are measured at fair value. The remaining assets and liabilities disclosed in the statement of financial position do not apply the fair value hierarchy.

The different levels of the fair value hierarchy are defined below.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the ARC can access at measurement date.
Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
Level 3: Unobservable inputs for the asset or liability.

Accounting Policy
The ARC tests the procedures of the valuation model as an asset materiality review at least once every 12 months. If a particular asset class experiences significant and volatile changes in fair value (i.e. where indicators suggest that the value of the class has changed materially since the previous reporting period), that class is subject to specific valuation in the reporting period, where practicable, regardless of the timing of the last specific valuation. The ARC engaged a vauer to undertake a materiality review of all plant and equipment assets and confirm that the models developed comply with AASB 13.

7.4A : Fair Value Measurement

	Fair value measurements at the end of the reporting period			Valuation Technique(s) and Inputs Used	
	2016	2015	**Category**		
	$'000	$'000	**(Level 1, 2 or 3)** [2,3]	**Valuation Technique(s)**	**Inputs used**
Non-financial assets [1]					
Leasehold improvements (Fitout)	**1,818**	2,014	Level 3	Depreciated Replacement Cost (DRC)	Replacement Cost New (price per square metre) Consumed economic benefit / Obsolescence of asset
Leasehold improvements (Makegood)	**209**	233	Level 3	Depreciated Replacement Cost (DRC)	Replacement Cost New
Plant & equipment	**175**	197	Level 2	Market Approach	Adjusted market transactions

The ARC did not measure any non-financial assets (NFAs) at fair value on a non- recurring basis as at 30 June 2016.

1. The ARC assets are held for operational purposes and not held for the purposes of deriving a profit. The current use of all NFAs is considered their highest and best use.
2. No assets were transferred between level 1 and level 2 during the year ending 30 June 2016.
3. The remaining assets and liabilities reported by the ARC are not measured at fair value in the Statement of Financial Position. Finance leases totaling $747,539 (2014-15: nil) included in the asset register for Plant and Equipment have been excluded from the above table.

PART 5

APPENDICES

APPENDIX 1: National Competitive Grants Programme funding schemes

This appendix provides information to support the Annual Performance Statement for Purpose 1: Managing research funding schemes (Section 2.2).

Discovery Programme

Australian Laureate Fellowships

First selection round	Funding commencing in 2009
Frequency	Annual
Description	The Australian Laureate Fellowships scheme is aimed at attracting and retaining outstanding researchers in Australia. The scheme provides fellows with project funding in addition to a salary supplement and salary-related (on-cost) support.

Discovery Early Career Researcher Award

First selection round	Funding commencing in 2012
Frequency	Annual
Description	The Discovery Early Career Researcher Award scheme is aimed at supporting early career researchers.

Discovery Indigenous

First selection round	Funding commencing in 2002 (Discovery Indigenous Researchers Development); funding commencing in 2012 (Discovery Indigenous)
Frequency	Annual
Description	The Discovery Indigenous scheme is aimed at supporting research programmes led by an Aboriginal and Torres Strait Islander researcher and building the research capacity of higher degree researchers and early career researchers.

Discovery Projects

First selection round	Funding commencing in 2002
Frequency	Annual
Description	The Discovery Projects scheme provides funding for research projects undertaken by excellent individual researchers and/or research teams.

Future Fellowships

First selection round	Funding commencing in 2009
Frequency	Annual
Description	The Future Fellowships scheme is aimed at attracting and retaining the brightest and best mid-career researchers.

Linkage Programme

ARC Centres of Excellence

First selection round	Funding commencing in 2003
Frequency	Periodic
Description	The ARC Centres of Excellence scheme is aimed at building critical mass in areas of research priority. Funding of between $1 million and $4 million per annum for up to seven years may be awarded for each ARC Centre of Excellence.

Industrial Transformation Research Hubs

First selection round	Funding commencing in 2012
Frequency	Annual
Description	The Industrial Transformation Research Hubs scheme supports collaborative research activity between the Australian higher education sector and industry in identified Industrial Transformation priority areas.

Industrial Transformation Training Centres

First selection round	Funding commencing in 2013
Frequency	Annual
Description	The Industrial Transformation Training Centres scheme fosters close partnerships between university-based researchers and other research end-users to provide innovative higher degree by research and postdoctoral training for industries vital to Australia's future.

Linkage Infrastructure, Equipment and Facilities

First selection round	Funding commencing in 2002
Frequency	Annual
Description	The Linkage Infrastructure, Equipment and Facilities scheme encourages institutions to develop collaborative arrangements to support research infrastructure.

Linkage Learned Academies Special Projects

First selection round	Funding commencing in 2002
Frequency	Periodic
Description	The Linkage Learned Academies Special Projects scheme funds the Australian Council of Learned Academies and the Learned Academies to undertake research projects.

Linkage Projects

First selection round	Funding commencing in 2002
Frequency	Annual since 2013; continuous from 1 July 2016
Description	The Linkage Projects scheme supports collaborative research and research training between universities and partner organisations.

Special Research Initiatives

First selection round	Funding commencing in 2002
Frequency	As required
Description	Under the Special Research Initiatives scheme, the ARC identifies new or emerging areas of research for funding. Applications for funding may be submitted only when invited by the ARC by means of a call for proposal(s).

APPENDIX 2: National Competitive Grants Programme statistics

This appendix provides information to support the Annual Performance Statement for Purpose 1: Managing research funding schemes (Section 2.2).

Table A2.1: NCGP funding commencing in 2013–14 to 2015–16

Scheme	2013 14	2014 15	2015–16
Discovery Programme			
Australian Laureate Fellowships	**2013**	**2014**	**2015**
Number of proposals	112	90	115
Number of awards	17	16	15
Total funding ($)	47,432,835	42,151,524	42,025,000
Success rate (%)	15.2	17.8	13.0
Discovery Early Career Researcher Award	**2014**	**2015**	**2016**
Number of proposals	1,468	1,394	1,220
Number of awards	200	200	200
Total funding ($)	75,789,232	70,567,494	70,736,647
Success rate (%)	13.6	14.3	16.4
Discovery Indigenous	**2014**	**2015**	**2016**
Number of proposals	26	32	31
Number of awards	10	10	10
Total funding ($)	4,886,142	4,392,609	4,059,356
Success rate (%)	38.5	31.3	32.3
Discovery Projects	**2014**	**2015**	**2016**
Number of proposals	3,534	3,689	3,584
Number of awards	703	665	635
Total funding ($)	257,632,541	250,044,435	244,935,035
Success rate (%)	19.9	18.0	17.7
Future Fellowships	**2013**	**2014**	**2015**
Number of proposals	1,234	830	318
Number of awards	201	150	50

Scheme	2013 14	2014 15	2015–16
Total funding ($)	152,292,682	114,919,482	38,648,000
Success rate (%)	16.3	18.1	15.7
Linkage Programme			
ARC Centres of Excellence[1]	**2014**	**2015**	**2016**
Number of proposals	103	n/a	n/a
Number of awards	12	n/a	n/a
Total funding ($)	284,999,996	n/a	n/a
Success rate (%)	11.7	n/a	n/a
Industrial Transformation Research Hubs	**2013**	**2014**	**2015**
Number of proposals	21	15	11
Number of awards	10	4	5
Total funding ($)	34,619,005	18,681,869	15,696,194
Success rate (%)	47.6	26.7	45.5
Industrial Transformation Training Centres	**2014**	**2015**	**2016**
Number of proposals	13	17	27
Number of awards	7	5	6
Total funding ($)	15,667,347	20,895,677	22,044,067
Success rate (%)	53.8	29.4	22.2
Linkage Infrastructure, Equipment and Facilities	**2014**	**2015**	**2016**
Number of proposals	148	159	173
Number of awards	63	66	54
Total funding ($)	31,982,047	28,995,463	37,973,900
Success rate (%)	42.6	41.5	31.2
Linkage Learned Academies Special Projects	**2014**	**2015**	**2016**
Number of proposals	5	n/a	n/a
Number of awards	2	n/a	n/a
Total funding ($)	834,160	n/a	n/a
Success rate (%)	40.0	n/a	n/a

Scheme	2013 14	2014 15	2015–16
Linkage Projects	**2013**	**2014**	**2015**
Number of proposals	785	699	710
Number of awards	306	251	252
Total funding ($)	101,809,345	88,154,841	86,927,155
Success rate (%)	39.0	35.9	35.5
Special Research Initiatives[2]	**2013–14**	**2014–15**	**2015–16**
Number of proposals	2	1	n/a
Number of awards	2	1	n/a
Total funding ($)	77,000,000	24,000,000	n/a

Notes

n/a not applicable

[1] The ARC Centres of Excellence scheme includes a preliminary expression of interest (EOI) stage. The number of proposals recorded is the number of EOIs received for consideration in each selection round.

[2] Special Research Initiatives include: the Special Research Initiative for Tropical Health and Medicine (funding commencing in 2013–14); the Special Research Initiative for Type 1 Juvenile Diabetes (funding commencing in 2013–14) and the Special Research Initiative for Antarctic Gateway Partnership (funding commencing in 2014–15).

APPENDIX 3: National Competitive Grants Programme performance trends

This appendix provides information to support the Annual Performance Statement for Purpose 1: Managing research funding schemes (Section 2.2).

Intended result: Outcomes of benefit

Table A3.1: Outcomes of benefit

Measure	Target	Result
Evidence of benefits arising from ARC-funded research (NCGP)	Target 2012–13: Case studies	Met
	Target 2013–14: Case studies	Met
	Target 2014–15: 10 Discovery and 5 Linkage Programme case studies	Met
	Target 2015–16: 15 case studies	Met
Proportion of completed research projects that report their objectives were met (Discovery)	Target 2014–15: >95 per cent	99 per cent
	Target 2015–16: >95 per cent	99 per cent
Proportion of completed research projects that report their objectives were met (Linkage)	Target 2014–15: >95 per cent	98 per cent
	Target 2015–16: >95 per cent	99 per cent

Intended result: Excellent research and researchers

Table A3.2: Excellent research and researchers

Measure	Target	Result
Evidence of the impact of ARC-funded research	Target 2013–14: Significantly exceeds benchmark	Met (using ERA cross reference)
Share of outputs of Discovery research projects that are rated at world standard or above	Target 2014–15: >80 per cent	Not measured
Share of outputs of Linkage research projects that are rated at world standard or above	Target 2014–15: >50 per cent	Not measured
Proportion of category 1 research income associated with world standard research (NCGP)	Target 2015–16: Maintain or increase the proportion of Category 1 research income associated with world standard research	Not measured; measure to be discountinued

Measure	Target	Result
Winning of prestigious prizes and awards (NCGP)	Target 2012–13: Prizes won	Met
	Target 2013–14: Prizes won	Met
	Target 2014–15: Prizes won	Met
	Target 2015–16: Prizes won	Met

Intended result: Research training and career development

Table A3.3: Research training and career development

Measure	Target	Result
Proportion of early career researchers supported under ARC-funded research (Discovery)	Target 2012–13: >20 per cent	21 per cent
	Target 2013–14: >20 per cent	22 per cent
	Target 2014–15: >20 per cent	22 per cent
	Target 2015–16: Maintain/increase	21 per cent
Proportion of early career researchers supported under ARC-funded research (Linkage Projects only)	Target 2012–13: >12 per cent	13 per cent
	Target 2013–14: >12 per cent	13 per cent
	Target 2014–15: >12 per cent	12 per cent
	Target 2015–16: Maintain/increase	12 per cent
Number of research students supported on ARC-funded research grants	Target 2013–14: 3 per grant	4 per grant
Proportion of ARC-funded research projects involving Higher Degree by Research (HDR) students (Discovery)[1,2]	Target 2014–15: to be benchmarked	80 per cent
	Target 2015–16: Maintain/increase	72 per cent
Proportion of ARC-funded research projects involving HDR students (Linkage)[1,2]	Target 2014–15: to be benchmarked	76 per cent
	Target 2015–16: Maintain/increase	69 per cent
Number of HDR students supported under the Industrial Transformation Research Programme	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: At least 10 per centre	10 per centre
	Target 2015–16: Maintain/increase	12 per centre
Proportion of fellowship/award recipients that are international applicants (Discovery)	Target 2012–13: >20 per cent	23 per cent
	Target 2013–14: >20 per cent	26 per cent
	Target 2014–15: >20 per cent	35 per cent
	Target 2015–16: Maintain/increase	32 per cent

Intended result: Engagement between universities and other research sectors

Table A3.4: Engagement between universities and other research sectors

Measure	Target	Result
Average number of partner organisations involved in Linkage research projects (Linkage Projects)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: >2	2
	Target 2015–16: Maintain/increase	2
Average number of partner organisations involved in Linkage research projects (ITRP)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: >5	6
	Target 2015–16: Maintain/increase	9
Average number of partner organisations involved in Linkage research projects (LIEF)	Target 2012–13: >3.5	4
	Target 2013–14: >3.5	5
	Target 2014–15: >3	5
	Target 2015–16: Maintain/increase	4
Average number of partner organisations involved in Linkage research projects (Centres)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: >10	n/a
	Target 2015–16: n/a	n/a
Funding (cash and in-kind) pledged by partner organisations involved in Linkage research projects (LP)	Target 2012–13: >$1.90	$1.87
	Target 2013–14: >$1.90	$1.90
	Target 2014–15: >$1.90	$1.93
	Target 2015–16: Maintain/increase	$1.80
Funding (cash and in-kind) pledged by partner organisations involved in Linkage research projects (ITRP)	Target 2012–13: n/a	n/a
	Target 2013–14: >$1.50	$1.61
	Target 2014–15: >$1.50	$1.47
	Target 2015–16: Maintain/increase	$1.80
Proportion of Linkage funding allocated to research projects that involve collaboration with industry	Target 2014–15: to be benchmarked	63 per cent

Measure	Target	Result
Proportion of Linkage research projects that involve collaboration with industry (Linkage)	Target 2015–16: Maintain/increase	69 per cent
Proportion of partner organisations that rate the research partnerships supported through Linkage Projects research projects as being beneficial or very beneficial [2]	Target 2012–13: >90 per cent	95 per cent
	Target 2013–14: >90 per cent	98 per cent
	Target 2014–15: >90 per cent	99 per cent
	Target 2015–16: Maintain/increase	98 per cent

Intended result: International collaboration

Table A3.5: International collaboration

Measure	Target	Result
Proportion of research projects involving international collaboration (Discovery)	Target 2012–13: >65 per cent	65 per cent
	Target 2013–14: >65 per cent	65 per cent
	Target 2014–15: >65 per cent	70 per cent
	Target 2015–16: Maintain/increase	74 per cent
Proportion of research projects involving international collaboration(Centres)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: 100 per cent	100 per cent
	Target 2015–16: Maintain/increase	n/a
Proportion of research projects involving international collaboration (ITRH)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: >80 per cent	100 per cent
	Target 2015–16: Maintain/increase	100 per cent
Proportion of research projects involving international collaboration (ITTC)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: >70 per cent	80 per cent
	Target 2015–16: Maintain/increase	83 per cent
Proportion of research projects involving international collaboration (LIEF)	Target 2012–13: n/a	n/a
	Target 2013–14: n/a	n/a
	Target 2014–15: >40 per cent	41 per cent
	Target 2015–16: Maintain/increase	61 per cent

Measure	Target	Result
Proportion of research projects involving international collaboration (LP)	Target 2012–13: n/a	n/a
	Target 2013–14: >42 per cent	46 per cent
	Target 2014–15: >40 per cent	51 per cent
	Target 2015–16: Maintain/increase	56 per cent
Proportion of research projects involving international collaboration (Linkage)	Target 2012–13: >42 per cent	45 per cent
	Target 2013–14: >42 per cent	46 per cent
	Target 2014–15: n/a	n/a
	Target 2015–16: n/a	n/a

Intended result: Research in areas of priority

Table A3.6: Research in areas of priority[3]

Measure	Target	Result
Proportion of NCGP funding awarded to research in areas of priority (Discovery)	Target 2012–13: >85 per cent	92 per cent
	Target 2013–14: >85 per cent	92 per cent
	Target 2014–15: >85 per cent	82 per cent
	Target 2015–16: Maintain/increase	80 per cent
Proportion of NCGP funding awarded to research in areas of priority (Linkage)	Target 2012–13: >90 per cent	98 per cent
	Target 2013–14: >90 per cent	98 per cent
	Target 2014–15: >90 per cent	91 per cent
	Target 2015–16: Maintain/increase	96 per cent

Notes

1 New measure in 2014–15

2 2012–13 based on final reports from ARC-funded research projects that commenced in 2008, 2013–14 based on 2009, 2014–15 based on 2010 and 2015–16 based on 2011

3 Priorities: National Research Priorities in 2012–13 and 2013–14 and Strategic Research Priorities in 2014–15 and 2015–16

APPENDIX 4: Prizes and awards

This appendix provides information to support the Annual Performance Statement for Purpose 1: Managing research funding schemes (Section 2.2), in particular performance against Measure 4: ARC-funded researchers win prestigious prizes and awards (page 23).

2016 Academy of Technological Sciences and Engineering Clunies Ross Awards

- **Knowledge Commercialisation Award**: Professor Maree Smith, The University of Queensland (Chief Investigator)

2016 Australian Academy of the Humanities Awards

- **Crawford Medal (early-career researchers)**: Dr David McInnis, The University of Melbourne (Chief Investigator)

2016 Australian Academy of Science Awards

- **David Craig Medal**: Professor Jeffrey Reimers, University of Technology, Sydney (Chief Investigator)
- **Ian Wark Medal and Lecture**: Scientia Professor Martin Green AM, The University of New South Wales (Chief Investigator)
- **Macfarlane Burnet Medal and Lecture**: Professor Graham Farquhar AO, The Australian National University (Chief Investigator)
- **Nancy Millis Medal for Women in Science**: Dr Elena Belousova, Macquarie University (Future Fellow)
- **John Booker Medal**: Dr Paola Falcaro, Commonwealth Scientific and Industrial Research Organisation (CSIRO) (Discovery Early Career Researcher Award (DECRA))
- **Fenner Medal**: Associate Professor Jane Elith, The University of Melbourne (Chief Investigator)
- **Anton Hales Medal**: Professor John Paterson, University of New England (Future Fellow)
- **Christopher Heyde Medal**: Dr Luke Bennetts, The University of Adelaide (DECRA)
- **Pawsey Medal**: Dr Ilya Shadrivov, The Australian National University (Chief Investigator)
- **Le Févre Memorial Prize**: Associate Professor Cyrille Boyer, The University of New South Wales (Chief Investigator, Future Fellow)

2015 Australia Museum Eureka Prizes

- **Macquarie University Eureka Prize for Outstanding Early Career Researcher**: Associate Professor Michael Biercuk, The University of Sydney (Chief Investigator)
- **Australian Infectious Diseases Research Centre Eureka Prize for Infection Disease Research**: Dr Marc Pellegrini, The University of Melbourne and Associate Professor Paul Ebert, The University of Queensland (Chief Investigators)
- **3M Eureka Prize for Emerging Leader in Science**: Dr Phillip Urquijo, The University of Melbourne (Future Fellow, Chief Investigator)
- **Scopus Eureka Prize for Excellence in International Scientific Collaboration**: Professor Dacheng Tao, University of Technology, Sydney (Future Fellow)
- **NSW Office of Environment and Heritage Eureka Prize for Environmental Research**: Professor David Keith, The University of New South Wales (Chief Investigator)
- **Rural Research and Development Corporations Eureka Prize for Rural Innovation**: Professor David Raftos, Macquarie University (Chief Investigator)
- **University of New South Wales Eureka Prize for Excellence in Interdisciplinary Scientific Research**: Professor Dayong Jin, Macquarie University (Future Fellow, Chief Investigator), Professor Tanya Monro, University of South Australia (Australian Laureate Fellow, Chief Investigator), and Bradley Walsh, Macquarie University (Partner Investigator)
- **Department of Industry and Science Eureka Prize for Promoting Understanding of Australian Science Research**: Professor Emma Johnston, The University of New South Wales (Chief Investigator)
- **University of Technology Sydney Eureka Prize for Outstanding Mentor of Young Researchers**: Professor Marilyn Renfree AO, The University of Melbourne (Chief Investigator)
- **CSIRO Eureka Prize for Leadership in Science**: Scientia Professor Michelle Simmons, The University of New South Wales (Australian Laureate Fellow)
- **University of New South Wales Eureka Prize for Scientific Research**: Professor Peter Currie, Monash University (Chief Investigator); Georgina Hollway, Garvan Institute of Medical Research (Partner Investigator)

2015 L'Oreal-UNESCO for Women in Science Fellowships

- Dr Jodie Rummer, James Cook University (DECRA)
- Dr Muireann Irish, The University of New South Wales (DECRA)
- Dr Shari Breen, CSIRO (DECRA)

2015 National Academy of Inventors Fellows

- **Australia**: Professor Chennupati Jagadish, The Australian National University (Chief Investigator)

2015 Prime Minister's Science Prizes

- **Malcolm McIntosh Prize for Physical Scientist of the Year**: Associate Professor Cyrille Boyer, The University of New South Wales (Future Fellow, Chief Investigator)
- **Frank Fenner Prize for Life Scientist of the Year**: Dr Jane Elith, The University of Melbourne (Chief Investigator)
- **Prime Minister's Prize for Innovation**: Laureate Professor Graeme Jameson AO, The University of Newcastle (Chief Investigator)
- **Prime Minister's Prize for Science**: Professor Graeme Farquhar AO, The Australian National University (Chief Investigator)

2015 State Scientists of the Year

- **Australian Capital Territory**: Dr Colin Jackson, The Australian National University (Future Fellow)
- **New South Wales**: Laureate Professor Scott Sloan, The University of Newcastle (Chief Investigator)
- **South Australia**: Professor Craig Simmons, Flinders University of South Australia (Chief Investigator)
- **Western Australia**: Professor Mark Cassidy, The University of Western Australia (Australian Laureate Fellow)

2015 Young Tall Poppy Science Awards

- **New South Wales**: Dr Dane McCamey, The University of New South Wales (Future Fellow, Chief Investigator)
- **New South Wales**: Dr Elizabeth New, The University of Sydney (DECRA, Chief Investigator)
- **New South Wales**: Associate Professor Igor Aharonvich, University of Technology, Sydney (DECRA)
- **New South Wales**: Dr Amy Reichelt, The University of New South Wales (DECRA)
- **New South Wales**: Dr Ben Colagiuri, The University of Sydney (DECRA, Chief Investigator)
- **New South Wales**: Dr Mirela Tulbure, The University of New South Wales (DECRA, Chief Investigator)
- **Queensland**: Associate Professor Michael Milford, Queensland University of Technology (Future Fellow, Chief Investigator)
- **Queensland**: Dr Bridie Scott-Parker, University of the Sunshine Coast (Chief Investigator)
- **Queensland**: Dr Jack Clegg, The University of Queensland (Future Fellow, Chief Investigator)

- **Queensland**: Dr Paul Pounds, The University of Queensland (DECRA)
- **Queensland**: Dr Christopher Brown, Griffith University (DECRA)
- **South Australia**: Dr Caitlin Byrt, The University of Adelaide (DECRA)
- **South Australia**: Dr Martin Breed, The University of Adelaide (DECRA)
- **South Australia**: Dr Martin White, The University of Adelaide (Future Fellow)
- **Victoria**: Dr Pascal Molenberghs, Monash University (DECRA, Chief Investigator)
- **Victoria**: Dr Qiaolian Bao, Monash University (Future Fellow)
- **Victoria**: Dr Suresh Mathivanan, La Trobe University (DECRA, Chief Investigator)
- **Victoria**: Dr Ailie Gallant, Monash University (DECRA)
- **Victoria**: Dr Tracy Heng, Monash University (Chief Investigator)
- **Western Australia**: Dr Sandra Tanz, The University of Western Australia (DECRA)

Other prizes and awards

Associate Professor Igor Aharonovich awardee from the University of Technology Sydney was awarded the IEEE Photonics Society Young Investigator Award (**www.photonicssociety.org/award-info**). Associate Professor Aharonovich was awarded a DECRA in 2013.

APPENDIX 5: Resource statements

This appendix provides information to support the report on financial performance (Section 2.5) (page 76-77).

Table A5.1: Resource statement, 2015–16

		Actual available appropriation for 2015–16 $'000 (a)	Payments made 2015–16 $'000 (b)	Balance remaining 2015–16[5] $'000 (a) – (b)
Ordinary annual services[1]				
Departmental appropriation[2]		32,712	19,255	**13,457**
Total		**32,712**	**19,255**	**13,457**
Administered expenses				
Outcome 1[1]		8,732	6,238	
Total		**8,732**	**6,238**	
Total ordinary annual services	**A**	**41,444**	**25,493**	
Other services				
Departmental non-operating				
Equity injections[3]		3,312	2,141	1,171
Total		3,312	2,141	1,171
Total other services	**B**	**3,312**	**2,141**	**1,171**
Total available annual appropriations and payments		**44,756**	**27,634**	
Special appropriations				
Special appropriations limited by criteria/entitlement				
Australian Research Council Act 2001		815,521	815,304	
Total special appropriations	**C**	**815,521**	**815,304**	
Special accounts				
Opening balance		2,000		
Appropriation receipts[4]		7,000		
Payments made			9,000	
Total special account	**D**	**9,000**	**9,000**	
Total resourcing and payments	**A+B+ C+D**	**869,277**	**851,938**	

	Actual available appropriation for 2015–16 $'000 (a)	Payments made 2015–16 $'000 (b)	Balance remaining 2015–16[5] $'000 (a) – (b)
Less appropriations drawn from annual or special appropriations above and credited to special accounts[4]	-7,000		
Total net resourcing and payments for the ARC	**862,277**	**851,938**	
Ordinary annual services[1]			

Notes

1 Appropriation Act (No. 1) 2015–16 and Appropriation Act (No. 3) 2015–16. This also includes prior-year departmental appropriation and section 74 retained revenue receipts of the PGPA Act.

2 Includes an amount of $1.253m in 2015–16 for the departmental capital budget. For accounting purposes, this amount has been designated as 'contributions by owners'.

3 Appropriation Act (No. 2) 2015–16.

4 Appropriation receipts from special appropriations for 2015–16 included above.

5 The remaining balance for 2015-16 differs from the unspent annual appropriations (as per Financial Statements Note 5.1B). This is due to the payments made including the movements in the ARC's cash account, whereas note 5.1B considers only the drawdowns from the available appropriations.

Table A5.2: Expenses for Outcome 1

Outcome: Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice	Budget* 2015–16 $'000 (a)	Actual Expenses 2015–16 $'000 (b)	Variation 2015–16 $'000 (a) – (b)
Programme 1.1: Discovery—Research and Research Training			
Administered expenses			
Ordinary annual services (Appropriation Act No. 1 and No. 3)	1,086	915	171
Special appropriations	526,692	466,935	59,757
Departmental expenses			
Departmental appropriation[1]	7,998	7,114	884
Expenses not requiring appropriation in the budget year	1,359	2,486	-1,127
Total for Programme 1.1	**537,135**	**477,456**	**59,686**
Programme 1.2: Linkage—Cross-Sector Research Partnerships			
Administered expenses			
Ordinary annual services (Appropriation Act No. 1 and No. 3)	1,032	1,072	-40

Outcome: Growth of knowledge and innovation through managing research funding schemes, measuring research excellence and providing advice	Budget* 2015–16 $'000 (a)	Actual Expenses 2015–16 $'000 (b)	Variation 2015–16 $'000 (a) – (b)
Special appropriations	288,829	289,591	-762
Special Accounts	2,000	9,000	-7,000
Departmental expenses			
Departmental appropriation[1]	10,180	9,053	1,127
Expenses not requiring appropriation in the budget year	1,359	2,486	-1,127
Total for Programme 1.2	**303,400**	**311,202**	**-7,802**
Programme 1.3: Excellence in Research for Australia			
Administered expenses			
Ordinary annual services (Appropriation Act No. 1 and No. 3)	3,589	3,038	551
Departmental expenses			
Departmental appropriation[1]	2,839	2,525	314
Expenses not requiring appropriation in the budget year	1,359	2,485	-1,126
Total for Programme 1.3	**7,787**	**8,048**	**-262**
Outcome 1: Totals by appropriation type			
Administered expenses			
Ordinary annual services (Appropriation Act No. 1)	5,707	5,025	682
Special appropriations	815,521	756,525	59,996
Special Accounts	2,000	9,000	-7,000
Departmental expenses			
Departmental appropriation[1]	21,017	18,692	2,325
Expenses not requiring appropriation in the budget year	4,077	7,457	-3,380
Total expenses for Outcome 1	**848,322**	**796,700**	**51,622**

Average Staffing Level (number)	**2015–16**	**2014–15**
	117	108

Note

* Full-year budget, including any subsequent adjustment made to the 2015–16 budget at 2015–16 Additional Estimates and the 2016–17 budget. Note the departmental splits by programme are indicative only.

[1] Departmental appropriation combines ordinary annual services (Appropriation Act Nos. 1 and 3) and retained revenue receipts under section 74 of the *Public Governance, Performance and Accountability Act 2013*.

APPENDIX 6: Staff statistics

This appendix provides information to support the report on people management (Section 3.3).

Classification level

Table A6.1: All staff by classification level (at 30 June 2014, 2015 and 2016)

Classification	2014	2015	2016
CEO	1	1	1
SES Band 2	1	1	1
SES Band 1	4	4	4
Executive Level 2	14	14	16
Executive Level 1	38	42	42
APS 6 (ARC Level 3)	27	30	27
APS 4–5 (ARC Level 2)	33	23	35
APS 1–3 (ARC Level 1)	0	0	1
Total	**119**	**115**	**127**

Employment status

Table A6.2: All staff by employment category, employment status and gender (at 30 June 2015 and 2016)

Employment category/status	Male		Female		Total		Females as% of total	
	2015	2016	2015	2016	2015	2016	2015	2016
Ongoing								
Full-time	35	34	64	64	99	98	65	65
Part-time	0	0	12	18	12	18	100	100
Sub-total	35	34	76	82	111	116	68	71
Non-ongoing								
Full-time	2	3	2	8	4	11	50	73
Part-time	0	0	0	0	0	0	0	0
Sub-total	2	3	2	8	4	11	50	73
Total	**37**	**37**	**78**	**90**	**115**	**127**	**68**	**71**

Gender

Table A6.3: All staff by classification level and gender (at 30 June 2015 and 2016)

Classification	Male		Female		Total		Females as % of total	
	2015	2016	2015	2016	2015	2016	2015	2016
CEO	1	1	0	0	1	1	0	0
SES Band 2	0	0	1	1	1	1	100	100
SES Band 1	1	1	3	3	4	4	75	75
Executive Level 2	5	5	9	1	14	16	64	69
Executive Level 1	20	17	22	25	42	42	52	60
APS 6 (ARC Level 3)	5	7	25	22	30	29	83	76
APS 4–5 (ARC Level 2)	5	4	18	25	23	29	78	86
APS 1–3 (ARC Level 1)	0	0	0	1	0	1	0	100
Total	**37**	**35**	**78**	**88**	**115**	**123**	**68**	**71**

Staff separations

Table A6.4: Staff separations by classification level and employment category (at 30 June 2015 and 2016)

Classification	Ongoing		Non ongoing		Total	
	2015	2016	2015	2016	2015	2016
SES Bands 1–2	1	0	0	1	1	1
Executive Level 2	1	1	0	0	1	1
Executive Level 1	2	0	0	0	2	0
APS 6 (ARC Level 3)	3	9	0	0	3	9
APS 4–5 (ARC Level 2)	3	4	0	2	3	6
APS 1–3 (ARC Level 1)	0	0	0	2	0	2
Total	**10**	**14**	**0**	**5**	**10**	**19**

APPENDIX 7: Other mandatory information

This appendix addresses the mandatory reporting requirements in annual reports related to other legislation (page 103).

Advertising and market research

Under section 311(A) of the *Commonwealth Electoral Act 1918,* agencies are required to report in their annual report on payments made to advertising agencies, market research organisations, polling organisations, direct mail organisations and media advertising organisations.

During 2015–16, the ARC paid a total of $9677.20 for advertising costs comprising $5000 (including GST) to One Mandate Media Pty Ltd and $4677.20 (including GST) to Mitchell and Partners Australia Pty Ltd. The advertising consisted of paid placement of stories to highlight ARC funding schemes and promote high-quality research outcomes funded by the ARC.

During 2015–16, the ARC did not employ the services of any market research, polling or direct mail organisations.

Safe and healthy work environment

Under the *Work Health and Safety Act 2011* (WHS Act), agencies are required to report in their annual report on the following matters:

- initiatives taken during the year to ensure the health, safety and welfare of workers who carry out work for the ARC
- health and safety outcomes achieved as a result of these initiatives
- statistics of any notifiable incidents of which the ARC became aware during the year that arose out of the conduct of businesses or undertakings by the agency
- any investigations conducted during the year that related to businesses or undertakings conducted by the ARC, including details of all notices given to the entity during the year under Part 10 of the WHS Act
- such other matters as are required by the guidelines approved on behalf of the Parliament by the Joint Committee of Public Accounts and Audit.

Health and safety initiatives

During the year, the ARC held Work Health and Safety Committee meetings and continued to provide:

- first aid training to nominated first aid officers within the ARC
- employer-subsidised eyesight testing for screen-based work
- training for fire wardens and health and safety representatives
- influenza vaccinations to employees and contractors

- workstation assessments
- mental health awareness training
- online Work Health and Safety training
- health checks.

Health and safety outcomes

No incident(s) were reported to the Director, People and Services, in accordance with the department's incident notification and reporting procedures.

Notifiable incidents

Under the WHS Act, a notifiable incident is one involving the death of a person, serious injury or illness of a person, or a dangerous incident. The ARC had no notifiable incidents during 2015–16.

Investigations including details of all notices

Under the WHS Act, improvement, prohibition or non-disturbance notices may be issued to the agency. The ARC was not issued with any notices and there were no investigations undertaken during 2015–16.

Any other matters

There are no other matters required by the guidelines.

Ecologically sustainable development and environmental performance

Under section 516A of the *Environment Protection and Biodiversity Conservation Act 1999*, Commonwealth entities have a statutory requirement to report against two criteria in their annual reports:

- how they accord with and contribute to ecologically sustainable development (ESD)
- their environmental performance, that is, the impact their activities have on the natural environment, how these are mitigated and how they will be further mitigated.

Accordance with and contribution to ESD

Overview

Under the National Competitive Grants Programme (NCGP) the ARC provides funding support for research in all disciplines and including issues of national significance such as health, social welfare, defence, transport, communications, and the environment.

The ARC is also responsible for Excellence in Research for Australia (ERA) which identifies and promotes excellence across all research fields in Australia's higher education institutions. Building on this knowledge enables the maximisation of research investment, the co-location of research expertise, collaboration across government and business and the realisation of innovation opportunities.

Accordance with principles of Ecologically Sustainable Development

The Principles are:

- **Integration**: decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
- **Precautionary**: if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
- **Intergenerational**: the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
- **Biodiversity**: the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making
- **Valuation**: improved valuation, pricing and incentive mechanisms should be promoted.

Accordance of the ARC's activities with these principles is outlined in the Table 7.1.

Table A7.1: Principles of ESD and ARC activities

Principle	ARC activities
Integration	Each NCGP funding scheme includes the selection criterion: Will the proposed research maximise economic, environmental, social, health and/or cultural benefit to Australia? Proposals are assessed through a competitive peer review process.
Intergenerational	The NCGP provides funding for research in all disciplines including research relevant to ecologically sustainable development and environmental protection. ERA identifies and promotes excellence across all research fields in Australia's higher education institutions. One aim is to build research excellence resulting in outcomes for Australia.
Biodiversity	All ARC funded projects must comply with ethics and research practice requirements including: the Australian Code for the Responsible Conduct of Research which includes the requirement that researchers should conduct research so as to minimise adverse effects on the wider community and the environment.
Valuation	The ARC complies with the Commonwealth Procurement Guidelines ensuring that any procurement takes into consideration, among other factors, the environmental sustainability of the proposed goods and services.

NCGP/ERA outcomes

In 2015–16:

- of 1216 NCGP projects awarded funding commencing in that year, 228 involved research relevant to the Australian Government Strategic Research Priority area of 'Living in a changing environment'. These projects were allocated total funding of $103.4 million
- the ARC funded a range of ongoing research projects conducting environment-related research. Examples of larger scale projects funded include:
  - the ARC Centre of Excellence for Climate System Science (established 2011) which is aimed at building on and improving existing understanding of the modelling of regional climates to enable enhanced adaptation to and management of climate change, particularly in the Australian region
  - the ARC Centre of Excellence for Environmental Decisions (established 2011) which will generate the fundamental knowledge and tools needed to make the best use of available resources for conservation. It will provide new techniques for assessing what resources are required and innovative ways for learning from our investment decisions
  - the ARC Centre of Excellence for Integrated Coral Reef Studies (established 2014) which aims to provide the scientific knowledge necessary for sustaining ecosystem goods and services of the world's coral reefs, which support the livelihoods and food security of millions of people in the tropics.
- the ARC released the *State of Australian University Research 2015–16: Volume 1 ERA National Report*. The report showed that research in environmental sciences (eg ecological applications, environmental science and management, soil science and other environmental sciences) was consistently rated as above world standard.

Environmental performance

The ARC's daily operational activities have an impact on the environment through the use of electricity, vehicles, water, paper and other materials, and the generation of waste. Measures to minimise this impact are outlined below.

Building

The ARC leases office space in 11 Lancaster Place, Canberra Airport, Canberra. This location houses one of the largest tri-generation plants in Australia. Tri-generation is a process where natural gas is used as the single input source of energy to generate electricity. Excess energy that would have been lost during the production of electricity is used to heat the buildings in winter and cool them in summer.

In addition to producing three forms of energy, tri-generation provides efficiencies of 90 per cent. This far surpasses the Commonwealth Green Lease Requirement of 4.5 Star NABERS (the National Australian Building Environment Rating System). It also equates to less than half the carbon dioxide emissions of a 5 Star NABERS building.

Energy

Lighting within the ARC offices operates on motion sensors and automatically switches off if no movement is detected for a specified period of time.

The ARC undertakes an electrical audit of any personal devices to be used on ARC premises. The audit applies a reasonableness test, considering key priorities, including cost, productivity and environmental impact. Devices that do not meet the requirements of this test cannot be used on ARC premises.

In 2015–16 ARC staff participated in the 'Earth Hour 2016' initiative held on 19 March 2016. Staff switched off computers and other electrical appliances and were asked not to enter ARC offices during this period. The initiative aimed to raise awareness about energy usage.

Information management

In accordance with the Australian Government's *Digital Transformation Policy* the ARC has committed to digital information management practices and is transitioning to primarily digital record keeping. As part of this process, in 2015–16 the ARC conducted a shared drive data cleansing and restructure to identify files that could be deleted to help achieve more efficient data storage and management.

In 2015–16 the ARC also upgraded its intranet to improve information sharing with staff. The intranet is the primary mechanism to engage with staff about matters affecting the whole agency.

Information and Communication Technology (ICT) services

The *Australian Government ICT Sustainability Plan* provides target guidelines for agencies to measure against over five years in relation to procurement, resource consumption and demand, waste and energy consumption. The ARC's achievements against the summary measures of the plan are provided in Table A7.2.

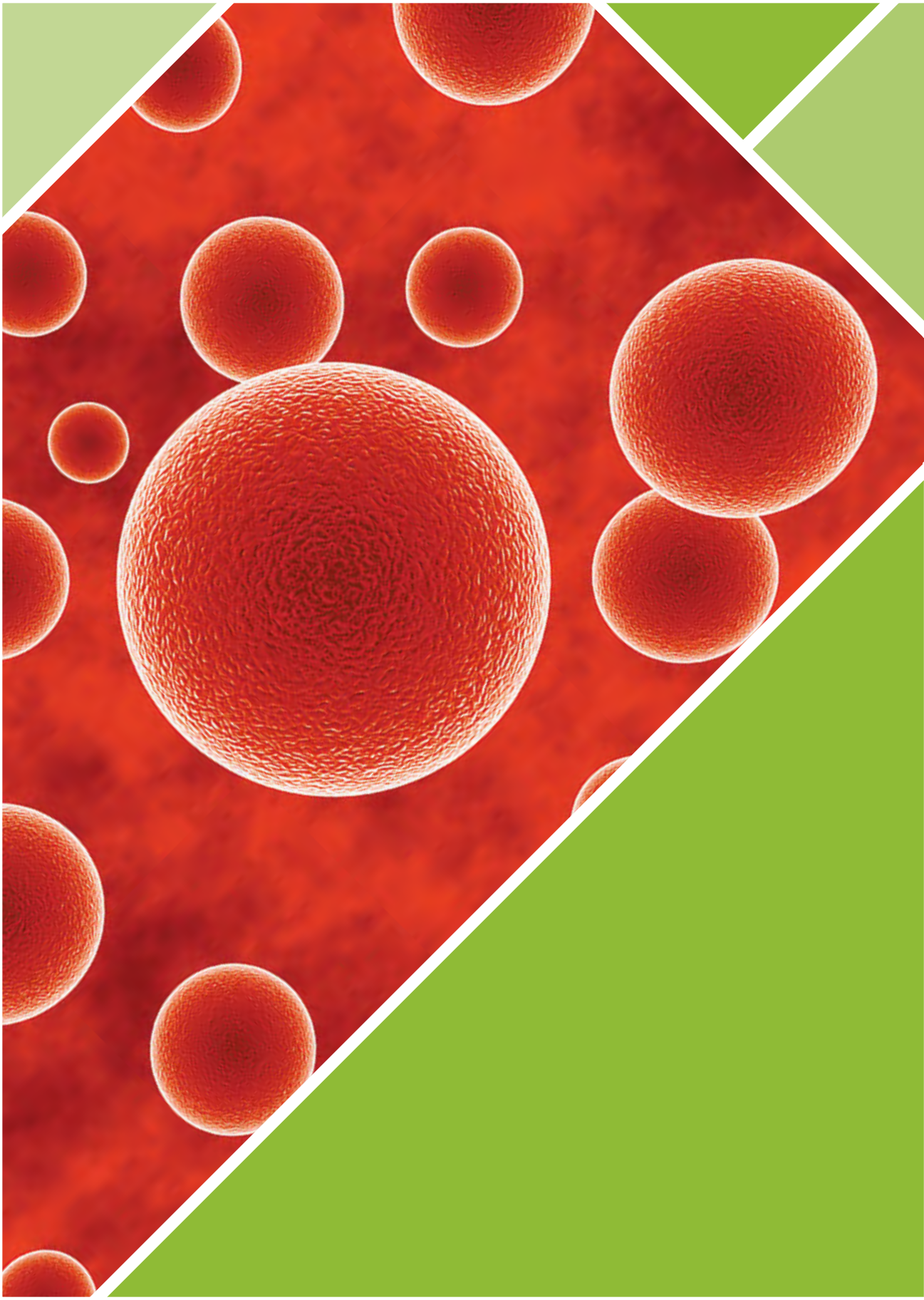
The ARC continues to improve its operational efficiency and undertakes regular reviews to evaluate the effectiveness of its measures to minimise the impact of the ARC's activities on the environment. Reporting against the measures in the ICT Sustainability Plan is an important part of the ARC's review framework.

Table A7.2: Australian Government ICT Sustainability Plan—summary of measures

Measures	Target July 2015	Actual July 2016
Sustainable procurement		
Relevant ICT equipment meets ISO14024 or ISO14021 standards at a level of EPEAT silver or equivalent as a minimum standard	Implemented in all procurement processes	Implemented in all procurement processes
ICT equipment complies with current energy star version		
Product take-back and appropriate resource reused or recovery for mobiles; toner cartridges and ICT equipment covered by national e-waste recycling scheme of NWP		
General use office copy paper	100 per cent recycled	100 per cent recycled
Managing resource consumption and demand		
Internal copy paper per end user (reams per annum)	9	9
Desktop computers to printer ratio	20:1	20:1
Desktop devices per end user	1.2:1	1.2:1
Managing waste		
e-waste reused or recycled	75 per cent	75 per cent
ICT packaging recycled	85 per cent	85 per cent
Managing energy consumption		
Desktop energy per end user (kWh per annum and averaged across agency)	250	105
Power usage effectiveness[1] in data centres and server room	1.9	1.45
Desktop computers off after hours	90 per cent	90 per cent

Notes

[1] Power usage effectiveness figures provided by Data Centre Provider (TransACT Communications)



PART 6

REFERENCE

LIST OF FIGURES AND TABLES

Figures

Tables

ABBREVIATIONS AND ACRONYMS

A	
AAI	Accountable Authority Instructions
ABS	Australian Bureau of Statistics
ANAO	Australian National Audit Office
APS	Australian Public Service
APSC	Australian Public Service Commission
ARC	Australian Research Council
ARC Act	Australian Research Council Act 2001
ARIC	Australian Research Integrity Committee
AWA	Australian Workplace Agreement
B	
BCP	ARC Business Continuity Plan
C	
Centres	ARC Centres of Excellence scheme
CEO	Chief Executive Officer
Code	Australian Code for the Responsible Conduct of Research
CP	Corporate plan
CSIRO	Commonwealth Scientific and Industrial Research Organisation
D	
DI	Discovery Indigenous scheme
DECRA	Discovery Early Career Researcher Award scheme
DP	Discovery Projects scheme
E	
EGM	Executive General Manager
EOI	expression of interest
ERA	Excellence in Research for Australia
ESD	ecologically sustainable development

F	
FOI Act	Freedom of Information Act 1982
FoR	Field of Research
G	
GRC	Global Research Council
GST	Goods and Services Tax
H	
HDR	higher degree by research
I	
ICT	information and communications technology
IFA	Individual Flexibility Agreements
IPS	Information Publication Scheme
IT	information technology
ITRH	Industrial Transformation Research Hubs
ITRP	Industrial Transformation Research Programme
ITTC	Industrial Transformation Training Centres
K	
kWh	kilowatt hour
L	
LIEF	Linkage Infrastructure, Equipment and Facilities scheme
LIGO	Laser Interferometer Gravitational-Wave Observatory
LP	Linkage Projects scheme
M	
MYEFO	Mid-Year Economic and Fiscal Outlook
N	
NABERS	National Australian Building Environment Rating System
NCGP	National Competitive Grants Programme
NHMRC	National Health and Medical Research Council
NISA	National Innovation and Science Agenda
NRP	National Research Priorities

P	
PBS	Portfolio Budget Statements
PGPA Act	Public Governance, Performance and Accountability Act 2013
PGPA Rule	Public Governance, Performance and Accountability Rule 2014
PhD	Doctor of Philosophy
R	
R&D	research and development
REC	Research Evaluation Committee
ROPE	Research Opportunity and Performance Evidence
S	
SAC	Selection Advisory Committee
SES	Senior Executive Service
SHeM	scanning helium microscope
SLP	sulphur-limonene polysulphide
SME	Small to Medium Enterprises
SMG	Senior Management Group
SRP	strategic research priority
U	
UoE	unit of evaluation
V	
VFD	Vortex Fluidic Device
W	
WHS Act	Work Health and Safety Act 2011 (Cth)

GLOSSARY

Administered activities

Funding that is managed by agencies on behalf of the government.

Chief Investigator

A researcher who: satisfies the eligibility criteria for a Chief Investigator under the Discovery programme or Linkage programme funding rules; and takes responsibility for the conduct of an ARC-funded project.

Departmental activities

Those assets, liabilities, revenues and expenses controlled by agencies or authorities and used in producing their outputs.

Discovery

Programme 1.1 of the 2015–16 Portfolio Budget Statements, which provides funding for investigator-initiated research projects and research fellowships and awards. The Discovery programme comprises the Australian Laureate Fellowships, Discovery Early Career Researcher Award, Discovery Indigenous, Discovery Projects and Future Fellowships schemes.

Early career researcher

A researcher who has held a PhD or equivalent qualification for a period less than or equal to five years at the time of their application.

Excellence in Research for Australia

Programme 1.3 of the 2015–16 Portfolio Budget Statements, which provides Australian Government, industry, business and the wider community assurance of the excellence of research conducted in Australia's higher education institutions through an evaluation framework that identifies universities and disciplines that are internationally competitive and highlights areas where there are opportunities for further development and investment.

Field of Research (FoR) classification

A classification based on the methodology used in the R&D that is being considered. The Australian Bureau of Statistics (ABS) develops the FoR codes in consultation with stakeholders in the research sector. Full code descriptions are available on the ABS website: **www.abs.gov.au**.

Final report

A report to the ARC that researchers must submit within 12 months of completing their research project. The report includes a range of data and information including a description of research outcomes, academic and commercialisation outputs and details of collaboration.

Funding agreement

The agreement entered into by the ARC and an Administering Organisation when a proposal from that organisation is approved for funding.

Funding rules

Documents published on the ARC website for each funding scheme which provide applicants with information about a scheme, eligibility requirements, the application, selection and approval processes, and requirements for the administration of funding.

Linkage

Programme 1.2 of the 2015–16 Portfolio Budget Statements, which provides funding for research projects, infrastructure, hubs and centres that foster collaboration among researchers and research teams in Australia and internationally, and with industry and other end-users of research. The Linkage programme comprises the ARC Centres of Excellence; Co-funded Research Centres; Industrial Transformation Research Hubs; Industrial Transformation Training Centres; Linkage Infrastructure, Equipment and Facilities; Linkage Learned Academies Special Projects; Linkage Projects and Special Research Initiatives schemes.

Mid-career researchers

A researcher with between 5 and 15 years' research experience since the award of a PhD or equivalent qualification at the time of their application.

National Competitive Grants Programme

The National Competitive Grants Programme (NCGP) comprises Discovery and Linkage programmes, under which the ARC funds a range of complementary schemes to support the highest-quality fundamental and applied research, research training and collaboration or partnerships and infrastructure across all research disciplines.

National Research Priorities

A set of priority areas identified by the Australian Government. In 2012–13 the Australian Government's four National Research Priorities were: An environmentally sustainable Australia (Environment); Promoting and maintaining good health (Health); Frontier technologies for building and transforming Australian industries (Frontier technologies); and Safeguarding Australia. In 2013 the National Research Priorities were replaced by Strategic Research Priorities.

Open access

The idea that research outcomes, particularly those arising from publicly funded research projects, should be available as broadly as possible.

Open data

The idea that data collected and used as part of a research project, particularly a publicly funded research project, should be freely available to other researchers and the wider community.

Partner Investigator

A researcher who: satisfies the eligibility criteria for a Partner Investigator under the Discovery programme or Linkage programme funding rules; and takes significant intellectual responsibility for the research.

Partner organisations

National or international organisations that satisfy the eligibility criteria for a partner organisation as defined under Linkage funding rules, and contribute to the research project in accordance with the requirements of the scheme.

Peer review

Evaluation of research proposals or outputs by experts who assess individual research proposals within their field of research or across a broader disciplinary area on the basis of established selection criteria.

Science and Research Priorities

The Australian Government has identified nine Science and Research Priorities and associated Practical Research Challenges. The priorities, developed in consultation with leaders from industry, research and government, are designed to focus Australian Government support for science and research on the most important challenges facing Australia. The current Science and Research Priorities are: Food, Soil and Water, Transport, Cybersecurity, Energy, Resources, Advanced Manufacturing, Environmental Change, and Health. Each priority is associated with three to four Practical Research Challenges, which aim to guide investment and activity in areas where the Government considers Australia must maintain a strong research and innovation capability.

Strategic Research Priorities

A set of priority areas identified by the Australian Government that replaced the National Research Priorities in 2013. They are Living in a changing environment; Promoting population health and wellbeing; Managing our food and water assets; Securing Australia's place in a changing world; and Lifting productivity and economic growth. The strategic research priorities were replaced by the Science and Research Priorities in May 2015.

Success rate

The number of awards made in a year or funding round as a percentage of the total number of applications. Withdrawn applications are excluded from calculations.

Units of evaluation

A discipline for a specific higher education institution at the two- or four-digit field of research level.

COMPLIANCE INDEX

Australian Research Council Act 2001—List of requirements

Ref	Description	Requirement	Page(s)
46	The annual report prepared by the Chief Executive Officer (CEO) and given to the Minister under section 46 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) for a period must also deal with: (a) any matters required by other provisions of this Act to be dealt with in the report; and (b) any other matters that the Minister, by notice in writing to the CEO, requires to be dealt with in the report. Note: A provision of this Act that require matters to be dealt with in the report is subsection 33C(3).	Mandatory	iii
33(c)	Particulars of any directions given by the Minister under subsection (1) must be (b) included in the annual report prepared by the CEO and given to the Minister under section 46 of the PGPA Act, for the period in which the direction is given.	Mandatory	iii

Annual reports for non-Corporate Commonwealth entities — List of requirements

Ref	Part / description	Requirement	Page(s)
17AD(g)	**Letter of transmittal**		
17AI	A copy of the letter of transmittal signed and dated by the Accountable Authority on the date the final text is approved, with a statement that the report has been prepared in accordance with section 46 of the PGPA Act and any enabling legislation that specifies additional requirements in relation to the annual report.	Mandatory	iii
17AD(h)	**Aids to access**		
17AJ(a)	Table of contents	Mandatory	iv-v
17AJ(b)	Alphabetical index	Mandatory	199
17AJ(c)	Glossary of abbreviations and acronyms	Mandatory	186-91
17AJ(d)	List of requirements	Mandatory	192-8

Ref	Part / description	Requirement	Page(s)
17AJ(e)	Details of contact officer	Mandatory	ii
17AJ(f)	Entity's website address.	Mandatory	ii
17AJ(g)	Electronic address of report.	Mandatory	ii
17AD(a)	**Review by accountable authority**		
17AD(a)	A review by the accountable authority of the entity.	Mandatory	3-7
17AD(b)	**Overview of the entity**		
17AE(1)(a)(i)	A description of the role and functions of the entity.	Mandatory	10-11
17AE(1)(a)(ii)	A description of the organisational structure of the entity.	Mandatory	12
17AE(1)(a)(iii)	A description of the outcomes and programmes administered by the entity.	Mandatory	13
17AE(1)(a)(iv)	A description of the purposes of the entity as included in corporate plan.	Mandatory	13
17AE(1)(b)	An outline of the structure of the portfolio of the entity.	Mandatory for portfolio departments	N/A
17AE(2)	Where the outcomes and programmes administered by the entity differ from any Portfolio Budget Statement, Portfolio Additional Estimates Statement or other portfolio estimates statement that was prepared for the entity for the period, include details of variation and reasons for change.	If applicable, Mandatory	N/A
17AD(c)	**Report on performance of the entity**		
	Annual performance statements		
17AD(c)(i);16F	Annual performance statement in accordance with paragraph 39(1)(b) of the PGPA Act and section 16F of the PGPA Rule.	Mandatory	16-75, 156-70
17AD(c)(ii)	Report on financial performance		
17AF(1)(a)	A discussion and analysis of the entity's financial performance.	Mandatory	76-7

Ref	Part / description	Requirement	Page(s)
17AF(1)(b)	A table summarising the total resources and total payments of the entity.	Mandatory	171-3
17AF(2)	If there may be significant changes in the financial results during or after the previous or current reporting period, information on those changes, including: the cause of any operating loss of the entity; how the entity has responded to the loss and the actions that have been taken in relation to the loss; and any matter or circumstances that it can reasonably be anticipated will have a significant impact on the entity's future operation or financial results.	If applicable, Mandatory.	N/A
17AD(d)	**Management and accountability**		
	Corporate governance		
17AG(2)(a)	Information on compliance with section 10 (fraud systems).	Mandatory	80
17AG(2)(b)(i)	A certification by the accountable authority that fraud risk assessments and fraud control plans have been prepared.	Mandatory	iii
17AG(2)(b)(ii)	A certification by the accountable authority that appropriate mechanisms for preventing, detecting incidents of, investigating or otherwise dealing with, and recording or reporting fraud that meet the specific needs of the entity are in place.	Mandatory	iii
17AG(2)(b)(iii)	A certification by the accountable authority that all reasonable measures have been taken to deal appropriately with fraud relating to the entity.	Mandatory	iii
17AG(2)(c)	An outline of structures and processes in place for the entity to implement principles and objectives of corporate governance.	Mandatory	80-91
17AG(2)(d)–(e)	A statement of significant issues reported to Minister under paragraph 19(1)(e) of the PGPA Act that relates to non compliance with Finance law and action taken to remedy non compliance.	If applicable, Mandatory	91
	External scrutiny		
17AG(3)	Information on the most significant developments in external scrutiny and the entity's response to the scrutiny.	Mandatory	92

Ref	Part / description	Requirement	Page(s)
17AG(3)(a)	Information on judicial decisions and decisions of administrative tribunals and by the Australian Information Commissioner that may have a significant effect on the operations of the entity.	If applicable, Mandatory	92
17AG(3)(b)	Information on any reports on operations of the entity by the Auditor General (other than report under section 43 of the PGPA Act), a Parliamentary Committee, or the Commonwealth Ombudsman.	If applicable, Mandatory	92
17AG(3)(c)	Information on any capability reviews on the entity that were released during the period.	If applicable, Mandatory	93
	Management of human resources		
17AG(4)(a)	An assessment of the entity's effectiveness in managing and developing employees to achieve entity objectives.	Mandatory	94-9
17AG(4)(b)	Statistics on the entity's Australian Public Service (APS) employees on an ongoing and non ongoing basis; including the following: statistics on staffing classification level; statistics on full time employees; statistics on part time employees; statistics on gender; statistics on staff location; statistics on employees who identify as Indigenous.	Mandatory	94, 174-5
17AG(4)(c)	Information on any enterprise agreements, individual flexibility arrangements, Australian workplace agreements, common law contracts and determinations under subsection 24(1) of the Public Service Act 1999.	Mandatory	96
17AG(4)(c)(i)	Information on the number of SES and non SES employees covered by agreements etc identified in paragraph 17AD(4)(c).	Mandatory	96-7
17AG(4)(c)(ii)	The salary ranges available for APS employees by classification level.	Mandatory	97
17AG(4)(c)(iii)	A description of non salary benefits provided to employees.	Mandatory	98
17AG(4)(d)(i)	Information on the number of employees at each classification level who received performance pay.	If applicable, Mandatory	97
17AG(4)(d)(ii)	Information on aggregate amounts of performance pay at each classification level.	If applicable, Mandatory	97

Ref	Part / description	Requirement	Page(s)
17AG(4)(d)(iii)	Information on the average amount of performance payment, and range of such payments, at each classification level.	If applicable, Mandatory	97
17AG(4)(d)(iv)	Information on aggregate amount of performance payments.	If applicable, Mandatory	97
	Assets management		
17AG(5)	An assessment of the effectiveness of assets management where asset management is a significant part of the entity's activities.	If applicable, Mandatory	100
	Purchasing		
17AG(6)	An assessment of entity performance against the Commonwealth Procurement Rules.	Mandatory	100
	Consultants		
17AG(7)(a)	A summary statement detailing the number of new contracts engaging consultants entered into during the period; the total actual expenditure on all new consultancy contracts entered into during the period (inclusive of GST); the number of ongoing consultancy contracts that were entered into during a previous reporting period; and the total actual expenditure in the reporting year on the ongoing consultancy contracts (inclusive of GST).	Mandatory	101
17AG(7)(b)	A statement that "During [reporting period], [specified number] new consultancy contracts were entered into involving total actual expenditure of $[specified million]. In addition, [specified number] ongoing consultancy contracts were active during the period, involving total actual expenditure of $[specified million]".	Mandatory	101
17AG(7)(c)	A summary of the policies and procedures for selecting and engaging consultants and the main categories of purposes for which consultants were selected and engaged.	Mandatory	100
17AG(7)(d)	A statement that "Annual reports contain information about actual expenditure on contracts for consultancies. Information on the value of contracts and consultancies is available on the AusTender website."	Mandatory	101

Ref	Part / description	Requirement	Page(s)
	Australian National Audit Office access clauses		
17AG(8)	If an entity entered into a contract with a value of more than $100,000 (inclusive of GST) and the contract did not provide the Auditor General with access to the contractor's premises, the report must include the name of the contractor, purpose and value of the contract, and the reason why a clause allowing access was not included in the contract.	If applicable, Mandatory	101
	Exempt contracts		
17AG(9)	If an entity entered into a contract or there is a standing offer with a value greater than $10,000 (inclusive of GST) which has been exempted from being published in AusTender because it would disclose exempt matters under the FOI Act, the annual report must include a statement that the contract or standing offer has been exempted, and the value of the contract or standing offer, to the extent that doing so does not disclose the exempt matters.	If applicable, Mandatory	101
	Small business		
17AG(10)(a)	A statement that "[Name of entity] supports small business participation in the Commonwealth Government procurement market. Small and Medium Enterprises (SME) and Small Enterprise participation statistics are available on the Department of Finance's website."	Mandatory	101
17AG(10)(b)	An outline of the ways in which the procurement practices of the entity support small and medium enterprises.	Mandatory	101
17AG(10)(c)	If the entity is considered by the Department administered by the Finance Minister as material in nature—a statement that "[Name of entity] recognises the importance of ensuring that small businesses are paid on time. The results of the Survey of Australian Government Payments to Small Business are available on the Treasury's website."	If applicable, Mandatory	101

Ref	Part / description	Requirement	Page(s)
	Financial Statements		
17AD(e)	Inclusion of the annual financial statements in accordance with subsection 43(4) of the PGPA Act.	Mandatory	105-53
17AD(f)	**Other mandatory information**		
17AH(1)(a)(i)	If the entity conducted advertising campaigns, a statement that "During [reporting period], the [name of entity] conducted the following advertising campaigns: [name of advertising campaigns undertaken]. Further information on those advertising campaigns is available at [address of entity's website] and in the reports on Australian Government advertising prepared by the Department of Finance. Those reports are available on the Department of Finance's website."	If applicable, Mandatory	N/A
17AH(1)(a)(ii)	If the entity did not conduct advertising campaigns, a statement to that effect.	If applicable, Mandatory	102
17AH(1)(b)	A statement that "Information on grants awarded by [name of entity] during [reporting period] is available at [address of entity's website]."	If applicable, Mandatory	102
17AH(1)(c)	Outline of mechanisms of disability reporting, including reference to website for further information.	Mandatory	102
17AH(1)(d)	Website reference to where the entity's Information Publication Scheme statement pursuant to Part II of FOI Act can be found.	Mandatory	102
17AH(1)(e)	Correction of material errors in previous annual report.	If applicable, Mandatory	103
17AH(2)	Information required by other legislation.	Mandatory	103, 176-81

Source: *Resource Management Guide No. 135 Annual reports for non-corporate Commonwealth entities* (July 2016, Department of Finance)

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