Monash University
Linkage Projects Scheme

May, 2009

Dr Ian D R Mackinnon
Executive Director, Engineering and Environmental Sciences
Australian Research Council
Co-ordinator: Linkage Projects and Linkage Infrastructure, Equipment and Facilities Schemes
email: ian.mackinnon@arc.gov.au
Australian Research Council
Overview

• Federal Government agency supporting all R&D
  ▪ except medical and dental research
  ▪ competitive, peer-reviewed proposals by investigators
  ▪ limited strategic direction in specific fields

• Annual funding to University sector ~$600m (FY08/09)
  ▪ about 10% of total Federal spend on R&D
  ▪ assess >5,500 proposals per year
  ▪ 35 Centres of Excellence, Special or Co-funded Centres
  ▪ 25 Research Networks

• Mission
  ▪ to advance Australia’s research excellence to be globally competitive and
to deliver benefits – public good and commercial – to the community
NCGP Competitive Funding
All Schemes

Year
01-02 02-03 03-04 04-05 05-06 06-07 07-08 08-09 09-10 10-11 11-12 12-13
est est est est est est est

Dollars (million)
0 100 200 300 400 500 600 700 800 900

Powering Ideas
BAA 1
BAA 2

Research in the national interest – enabling the future

Australian Government
Australian Research Council
Research Performance
ARC DP and LP Schemes (2001 to 2007)
# Research Performance

ARC DP and LP Schemes (2001 to 2007)

<table>
<thead>
<tr>
<th></th>
<th>Funded Dollars</th>
<th>No of Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$million 2001</td>
<td>$million 2007</td>
</tr>
<tr>
<td>BSB</td>
<td>57.6</td>
<td>86.5</td>
</tr>
<tr>
<td>EE</td>
<td>49.8</td>
<td>75.4</td>
</tr>
<tr>
<td>HCA</td>
<td>27.9</td>
<td>51.8</td>
</tr>
<tr>
<td>MIC</td>
<td>33.9</td>
<td>57.4</td>
</tr>
<tr>
<td>PCG</td>
<td>61.7</td>
<td>76.6</td>
</tr>
<tr>
<td>SBE</td>
<td>39.2</td>
<td>83.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>270.1</td>
<td>430.7</td>
</tr>
</tbody>
</table>

**Totals**

$2.6$ billion
36,948 proposals
Linkage Projects

• Primary aim
  – Encourage and extend cooperative approaches to research by strengthening links within Australia’s innovation system and within innovation systems internationally
  – Economic, social, environmental, policy or scientific benefit

• Participant roles
  – Chief Investigator, Partner Investigator
  – APAI (Aust. Postgraduate Award, Industry)
  – APDI (< 3 years from PhD),
  – Linkage Industry Fellowships (LIF)

• Partners
  – Private sector; private non-profit organisation; a Govt org with funds not committed to internal research or any other purpose of research, evaluation and/or consultancy.
  – Does not fund medical and dental research & training
Chief Investigator Cohort
ARC Project Grants 2001-2007

Discovery Projects
51%

Linkage Projects
29%

Overlap: both DP and LP
20%
Importance of Co-Funding

• Co-funding is a “revealed preference”
  – confirmation of research need
  – “pre-selection” process

• Co-funding is quantifiable
  – $ARC + $co-funder = $ project

• Happy co-funders are influential spokespersons
  – to whom others really listen
# Linkage Projects

<table>
<thead>
<tr>
<th>Timing</th>
<th>2 rounds per year; close May and November</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of active projects</td>
<td>~1,500</td>
</tr>
<tr>
<td>Allocation for new grants</td>
<td>$126M in 2008; $143M in 2009</td>
</tr>
<tr>
<td>% of total ARC funds</td>
<td>~20%</td>
</tr>
<tr>
<td>Project duration</td>
<td>1 – 5 years, normally 3 years</td>
</tr>
<tr>
<td>Project size</td>
<td>$20k to &gt;$500k pa; average $101k pa</td>
</tr>
<tr>
<td>No. of CIs per project</td>
<td>2.2</td>
</tr>
<tr>
<td>No. applications per yr</td>
<td>Between 900 and 1,100</td>
</tr>
<tr>
<td>Success rate</td>
<td>44.2% for LP07; 45% for LP08; 47.4% for LP09</td>
</tr>
<tr>
<td>Partner Contributions</td>
<td>If no APAI, match ARC with in-kind (±cash)</td>
</tr>
<tr>
<td></td>
<td>If &lt; $500K pa, match 20% of ARC as cash</td>
</tr>
<tr>
<td></td>
<td>If &gt; $500K pa, match 50% of ARC as cash</td>
</tr>
</tbody>
</table>
**Linkage Projects – 2009 Funding Rules**

**Major Changes**

- Upper limit to each proposal - $2m per year
- Support for CI to be relieved of other duties – limit of $66k pa per CI. Justify in proposal; maximise interaction of CI with project and Partner Organisation

- Overseas higher education organisations are eligible to be Partner Organisation; requires at least one Australian Partner Organisation with proposal
- Citizenship requirement for APAIs (post-grads) removed
- Travel requests clarified
Linkage Projects

• Selection Criteria

  – Investigators’ Track Record  20%
  – Project significance and innovation  25%
  – Project approach and training  20%
  – Project national benefit  10%
  – Partner Organisation commitment  25%
Assessment Process(es)

• Specialty Readers
  – match with sub-discipline or field
  – read a small number per round

• General Readers
  – strong experience of discipline or field
  – read between 10 and 20 per round

• College of Experts
  – leaders of discipline or field; expert researchers
  – read many proposals per round

RFCD or FOR Codes
Project Summary
Conflict of Interest

• Clarification of CoI responsibility
  – All parties involved in or associated with proposals
  – Required to disclose to the ARC and to all other parties on proposal
  – Disclose manner/methods to manage the CoI

• Common with LP Scheme due to other affiliations and/or POs

• Eligibility exemption request can be sought
Strategies to Manage Cols

• If on a Board, absent the CI/PI from the meeting while decision is made

• Depending on size of project, form a management committee with clearly defined representation for all parties (note key CI may also absent from decisions)

• Use an independent third party to negotiate key issues for agreement between AO and PO; follow above

• Extreme case: CI resign from Board of PO
Common Responses in EERs

**Type 4: Conflict of interest exemption**

Q2. Please outline mechanisms/actions planned to address……

“….Prof. Xs association with the Partner Organisation complies with the Funding Rules……”

“….a committee will be formed between senior management (CEO) of XYZ Company and the University or their appointed representatives to resolve CoI issues. The CI will……”

“….to avoid the potential for conflict of interest at management committee meetings…it is proposed that Prof Y will be present during scientific discussions…..but if decisions are to made that have potential to give Prof Y a personal financial benefit, then s/he will absent from the meeting…..”

“….should the application be successful, the CIs will remove themselves from the room when the Board has to make decisions or discuss the project, including funding and other Board members’ involvement…..”
Common Responses in EERs

Type 5: Partner Organisation

A: PO eligibility

Provide sufficient information to make a decision on PO eligibility (i.e. re-read Appendix 2)

B: PO minimum cash exemption

Q B3 Please provide detailed financial information and justification for why the organisation does not have ready access to sufficient cash reserves to meet …..

“…the organisation…. does not have dedicated funds for research activities.”

“…does not have the cash reserves to meet the above requirements as they are a small organisation.”

“… is not currently funded by any government body and relies on member subscriptions for…. as noted in the financial statement……”
# Linkage Projects

<table>
<thead>
<tr>
<th>Funding Year</th>
<th>Proposals received</th>
<th>Requested ($M)</th>
<th>Number Funded</th>
<th>Allocated ($M)**</th>
<th>Success Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>742</td>
<td>125.0</td>
<td>345</td>
<td>50.6</td>
<td>46.5</td>
</tr>
<tr>
<td>1999</td>
<td>873</td>
<td>130.0</td>
<td>407</td>
<td>51.7</td>
<td>46.6</td>
</tr>
<tr>
<td>2000</td>
<td>982</td>
<td>152.0</td>
<td>458</td>
<td>58.9</td>
<td>46.6</td>
</tr>
<tr>
<td>2001</td>
<td>1,085</td>
<td>168.8</td>
<td>485</td>
<td>62.1</td>
<td>44.7</td>
</tr>
<tr>
<td>2002</td>
<td>908</td>
<td>146.6</td>
<td>470</td>
<td>72.7</td>
<td>51.8</td>
</tr>
<tr>
<td>2003 (R1&amp;R2)</td>
<td>1,175</td>
<td>231.0</td>
<td>588</td>
<td>101.1</td>
<td>50.0</td>
</tr>
<tr>
<td>2004 (R1&amp;R2)</td>
<td>1,047</td>
<td>225.3</td>
<td>532</td>
<td>115.2</td>
<td>50.8</td>
</tr>
<tr>
<td>2005 (R1&amp;R2)</td>
<td>1,048</td>
<td>255.8</td>
<td>488</td>
<td>111.4</td>
<td>46.6</td>
</tr>
<tr>
<td>2006 (R1&amp;R2)</td>
<td>1,106</td>
<td>308.1</td>
<td>400</td>
<td>110.5</td>
<td>36.2</td>
</tr>
<tr>
<td>2007 (R1&amp;R2)</td>
<td>957</td>
<td>333.2</td>
<td>425</td>
<td>119.7</td>
<td>44.4</td>
</tr>
<tr>
<td>2008 (R1&amp;R2)</td>
<td>911</td>
<td>323.3</td>
<td>410</td>
<td>125.9</td>
<td>45.0</td>
</tr>
<tr>
<td>2009 (R1&amp;R2)</td>
<td>963</td>
<td>380.4</td>
<td>456</td>
<td>143.0</td>
<td>47.4</td>
</tr>
</tbody>
</table>
## Linkage Projects 2009

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Applications</th>
<th>Funded</th>
<th>Success rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rd 1</td>
<td>Rd 2</td>
<td>Rd 1</td>
</tr>
<tr>
<td>BSB</td>
<td>85</td>
<td>107</td>
<td>37</td>
</tr>
<tr>
<td>EE</td>
<td>100</td>
<td>104</td>
<td>55</td>
</tr>
<tr>
<td>HCA</td>
<td>32</td>
<td>58</td>
<td>18</td>
</tr>
<tr>
<td>MIC</td>
<td>45</td>
<td>53</td>
<td>24</td>
</tr>
<tr>
<td>PCG</td>
<td>39</td>
<td>31</td>
<td>16</td>
</tr>
<tr>
<td>SBE</td>
<td>140</td>
<td>169</td>
<td>68</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>441</strong></td>
<td><strong>522</strong></td>
<td><strong>218</strong></td>
</tr>
</tbody>
</table>
Linkage Projects Scheme
Age Profile – Funded Projects

![Age Group Numbers](chart.png)
Partner Organisation Commitment
(Cash + In-kind)

Funding Year

Dollars (millions)

- Total PO Pledged
- Total PO Funded
- Total ARC Funded

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009
## Partner Organisation Contributions
### 2005-2008
#### (millions)

<table>
<thead>
<tr>
<th></th>
<th>Cash</th>
<th>%</th>
<th>In-kind</th>
<th>%</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Private Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian</td>
<td>$89.8</td>
<td>36.5%</td>
<td>$164.5</td>
<td>37.1%</td>
<td>$254.3</td>
<td>36.9%</td>
</tr>
<tr>
<td>Overseas</td>
<td>$46.9</td>
<td>19.1%</td>
<td>$68.6</td>
<td>15.5%</td>
<td>$115.6</td>
<td>16.8%</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>$136.7</td>
<td>55.6%</td>
<td>$233.1</td>
<td>52.6%</td>
<td>$369.9</td>
<td>53.7%</td>
</tr>
<tr>
<td><strong>Government Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian</td>
<td>$17.2</td>
<td>7.0%</td>
<td>$21.3</td>
<td>4.8%</td>
<td>$38.5</td>
<td>5.6%</td>
</tr>
<tr>
<td>State &amp; Local</td>
<td>$58.9</td>
<td>23.9%</td>
<td>$126.1</td>
<td>28.5%</td>
<td>$184.9</td>
<td>26.8%</td>
</tr>
<tr>
<td>Overseas</td>
<td>$5.1</td>
<td>2.1%</td>
<td>$5.1</td>
<td>1.2%</td>
<td>$10.2</td>
<td>1.5%</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>$81.2</td>
<td>33.0%</td>
<td>$152.4</td>
<td>34.4%</td>
<td>$233.7</td>
<td>33.9%</td>
</tr>
<tr>
<td><strong>Non-Profit Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australian</td>
<td>$23.7</td>
<td>9.6%</td>
<td>$50.9</td>
<td>11.5%</td>
<td>$74.6</td>
<td>10.8%</td>
</tr>
<tr>
<td>Overseas</td>
<td>$4.3</td>
<td>1.8%</td>
<td>$6.5</td>
<td>1.5%</td>
<td>$10.9</td>
<td>1.6%</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td>$28.1</td>
<td>11.4%</td>
<td>$57.4</td>
<td>13.0%</td>
<td>$85.5</td>
<td>12.4%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>$246.0</td>
<td>100.0%</td>
<td>$443.0</td>
<td>100.0%</td>
<td>$689.0</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Total ARC Commitment: $467.5m
Partner Organisation Profile
2005-2008

LP Scheme
Partner Organisation Cash Commitments

Funding Year
2005
2006
2007
2008

Private-Austral'nn
Private-Internat'l
Govt-Commonw'lh
Govt-Internat'l
Govt-State&Local
NonProfit-Austral'nn
NonProfit-Internat'l
**Partner Organisation Participation**

**Linkage Projects Scheme**

*New Partners: first occurrence as Partner Organisation on any project (since 1995)*

Total for Period: 3,118 (funded)
Partner Organisation Participation
Linkage Projects Scheme

% of Total Cohort

Funding Year

New Business-Funded
Repeat Business-Funded
Repeat Business-All
New Business-All
Partner Organisation Participation
Linkage Projects Scheme

More than 70% of “2 proposals” cohort resubmit within 3 years
Partner Organisation Views: Why Use LP Scheme?

- Opportunity to build longterm relationships with uni researchers: 92%
  - Important: 92%
  - Not Important: 2%
- Access to highly skilled research personnel: 88%
  - Important: 88%
  - Not Important: 2%
- Possible to obtain larger grants: 76%
  - Important: 76%
  - Not Important: 2%
- Chance of success is reasonably high: 47%
  - Important: 47%
  - Not Important: 10%

Worthington Di Marzio Research Pty Ltd, 2006
Examples of Partner Organisations

Alcoa
BAE Systems Australia
BHP Billiton Ltd
BlueScope Steel Ltd
Brisbane City Council
CSL Limited
GlaxoSmithKline Aust Pty Ltd
Hydro Tasmania
Rio Tinto Ltd
Telstra Corp Ltd

Bartlett Grain Pty Ltd
Gold Coast City Council
Lastek Pty Ltd
Leica Geosystems
Micronisers Pty Ltd
National Australia Bank Ltd
Native Seeds Pty Ltd
Orica Australia Pty Ltd
Ridley Aqua-Feeds Ltd
Ronin Films
Saltgrow Pty Ltd
Santos Ltd
Sialon Ceramics Pty Ltd
Suncorp General Insurance
Tissue Therapies Ltd
Ulan Coal Mines Ltd
Williams Boag Architects
Wind Prospect Pty Ltd

Dupont-Pioneer
Kaltim Prima Coal
Microsoft Pty Ltd
Optus Networks Pty Ltd
Sprint Advanced Technology Labs
Yokogawa Electric Corp

Aged Care Queensland Inc
Agricultural Producers Commission
AIDS Council of NSW
Australian Football League
Australian Macadamia Society
Australian Institute of Sport
Brotherhood of St. Laurence
Delfin Lend Lease
Diabetes Australia
Electoral Council of Australia
Flora Hill Secondary College
Forestry TAS
Greening Australia Ltd
Illawarra Retirement Trust
Lifeline Australia Inc
Linux Australia Inc
Macquarie Library Pty Ltd
McDonalds Australia Ltd
National Heart Foundation
Neporendi Aboriginal Forum Inc
Oxfam Australia
QLD Health

Australian Museum
Barwon Health
Bawaninga Aboriginal Corp
Boulia State School
Bureau of Sugar Experiment Stations Ltd
Central Darling Shire Council
City of Greater Geelong
City of Rockingham
WA Dept of Environment
Geological Survey of VIC
Gippsland Coastal Board
Goulburn Murray Water
Healthy Waterways
Hunter Water Corp
Legal Aid QLD
Maribyrnong City Council
Midland Redevelopment Auth
Museum VIC
NSW Fisheries
NSW Police
Perth Zoo
Powerhouse Museum
Royal Flying Doctor Service
St Vincent de Paul Society
SA Museum
Timbercorp Ltd
Unions WA
VIC Dept of Education
Westmead Hospital
Partner Organisations

Useful Web Sites: ARC

http://www.arc.gov.au/general/searchable_data.htm
  • List of Partner Organisations in funded projects (2002-2008)
  • Funded projects list with particulars
  • Funded projects list with RFCD converted to FOR codes
  • Funding trend data

http://www.arc.gov.au/general/industry_corporate.htm
  • brief summary of Partner Organisations

  • Selected statistics and selection reports (all schemes)
Linkage Projects Scheme
Multiple Partnerships

Universities ~ 39
P Orgs in 1999 ~ 1,400
P Orgs in 2008 ~ 6,600

Building Capacity
Types of “Outcomes”

- Economic
  - generate wealth; create employment in sustainable industries
- Social and Cultural
  - improve equity, quality of life; reduce social risk
- Environmental
  - protect/restore environment; sustainable development
- Policy and Administration
  - improve decision making & governance
- Scientific Advancement
  - understanding ourselves & nature!
Example: Environmental & Economic

- A 2000-2002 SPIRT project (ARC $125,897 + industry co-funding) UNSW, ANU and SCU researchers studied chemistry and soil/water behaviour in cane farms with acid sulphate soil acidity

- Modified land management practices
  - decreased drains, laser levelled fields, retained surface trash, harvested green cane, etc

- Implemented best practice guidelines via co-operative

- 30% increase in production
- Decreased acidic flux during one in two year floods by 90%
- After two years, 100% compliance with best practice

- 2xLP projects + other funds from industry
- William McKell Award
- Practice became whole of government policy
Thank You

Copy of presentation:

http://www.arc.gov.au/media/ARC_Presentations.htm