Householders' Options to Protect the Environment Inc.
PO Box 6118 – Clifford Gardens, TOOWOOMBA QLD 435
(22 Vacy Street, Toowoomba QLD 4350)
Ph 07 4639 2135; Email: office@hopeaustralia.org.au
Website: www.hopeaustralia.org.au
Facebook: www.facebook.com/Householders.Options.to.Protect.the.Environment
ABN 48 036 173 161

HOPE Special Edition E-news Bulletin --- Australia's Cooperative Research Centres (CRC) Program

Editorial

The Cooperative Research Centres (CRC) program, established in 1990, supports industry-led collaborations between researchers, industries and end users. The program is a government initiative and regarded as one of the most successful government innovated programmes globally, due to its successful return of investment and far-reaching social and economic impacts. This review outlines the main objectives of Cooperative Research Australia (CRA) and of the CRA program, in addition to examples of successful CRA programs in the field of waste management, sustainability and the environment.

Regards,

Guest Newsletter Editors: Frank Lee and Lizzie Pennington (both HOPE volunteer Researchers)

Introduction

Cooperative Research Australia (CRA), established in 1994, is a not-for-profit organisation which supports science, collaborative research and education across Australia, in addition to acting as the main interface between Cooperative Research Centres (CRC's), the Australian government and other stakeholders.
CRA advocates for the translation of research into commercial, economic, social, and environmental outcomes that benefit all Australians. CRA members (Figure 1) are focused on creating new products, services, industries, and value in the economy (1).

CRA advocates for (2):

- Representing the interests of its members
- Raising specific research areas and concerns to stakeholders, journalists and policymakers
- Sharing recent news and achievements in the CRA newsletter which has over 10,000 subscribers
- Bringing attention to recent successes through giving Awards for Excellence in Innovation and supporting the Early Career Researchers Competition

Figure 1: CRA members (3)

CRA Objectives (4):

- To act as the main interface between Cooperative Research Centres (CRC's) and the government, as well as other stakeholders
- To support and promote the CRC program
- To support research and education, in addition to enhancing technological and scientific capabilities used in industries
- To advocate for more collaborative research and strengthen the link between research and its applications in industry

The **Cooperative Research Centres (CRC) Program**

This program was established in 1990, with the aim to build industry-led collaborations between researchers, industries and end users in the community and public sectors. CRC programs include projects that have been funded or established by organisations or a program which is recognised by the Australian Government under the CRC Program. CRC programs can be defined by the five pillars of a CRC (see figure 2) and aim to encourage and facilitate research collaborations to address major challenges facing Australia including (4, 6):

- Improving the competitiveness, productivity and sustainability of Australian industries, especially where Australia has competitive strength
- Supporting high quality research to solve industry-identified problems through industry-led and outcome-focused collaborative research partnerships between different industries and research organisations
- Encouraging and supporting participation from small and medium enterprises in collaborative research.

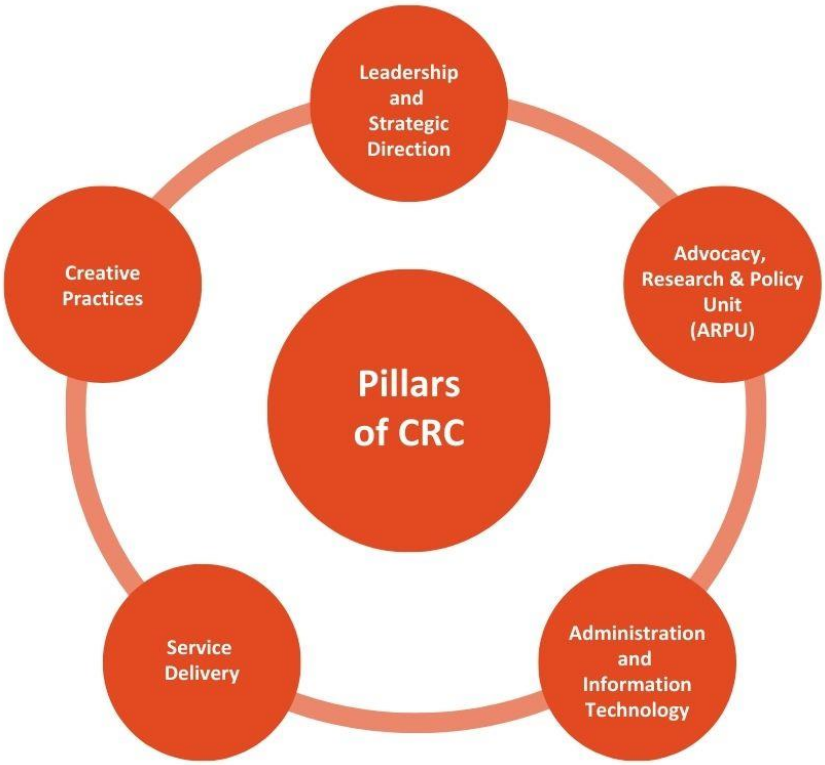

Figure 2: The pillars of CRC (16)

Examples of CRC programs in the field of environment and sustainability:

- Future Fuels CRC https://www.futurefuelscrc.com/
- Future Battery Industries CRC https://fbicrc.com.au/
- Solving Plastic Waste CRC https://www.plasticwastecrc.com/
- CRC for High Performance Soils http://www.soilcrc.com.au/
- Food Agility CRC https://www.foodagility.com/
- End Food Waste CRC https://endfoodwaste.com.au/
- Future Foods CRC https://www.futurefoodsystems.com.au/
- Future Energy Exports CRC https://www.fenex.org.au/
- Heavy Industry Low-Carbon Transition (HILT) CRC https://www.hiltcrc.com.au/

CRC Funding and Structure:

To support CRC programs, there is funding available such as (7):

- CRC grants– supporting medium to long term industry-led collaborations, for up to 10 years
- CRC project grants – supporting short-term, industry-led collaborative research, for up to 3 years

CRC project grants are smaller than CRC grants, operating on shorter project timelines and smaller budgets. CRC grants provide funding for collaborations to solve industry identified problems (8).
To be eligible for a grant, CRC programs must (9,10):

- Aim to solve industry identified problems and improve the competitiveness, productivity and sustainability of Australian industries
- Include an industry-focused education and training program, including a PhD program
- Increase research and development capacity in small to medium enterprises
- Further industry-based research

CRC programs and government initiatives:

CRC Programs support the aims of the Australian Government's National Innovation and Science Agenda. CRC Programs complement the **National Modern Manufacturing Initiative** *(to grow the manufacturing sector by making Australian manufacturers more competitive, resilient and globally competitive)*, **Industry Growth Centres** *(an industry led initiative driving innovation, productivity and competitiveness)* by focusing on areas of competitive strength and strategic priority. There are six **Industry Growth Centres** in the following sectors (8):

1. *Advanced Manufacturing*
2. *Cyber Security*
3. *Food and Agribusiness*
4. *Medical Technologies and Pharmaceuticals*
5. *Mining Equipment*, *Technology and Services*
6. *Oil, Gas and Energy Resources*

CRC programs provide research which supports the work of Industry Growth Centres, which identify the key priorities for the growth of businesses across Australia. Industry Growth Centres and CRCs are complementary initiatives that enhance the productivity and competitiveness of Australian industries. CRCs undertake industry-focused research, bringing together industry and research organisations to address industry challenges.

<u>Examples of successful CRC projects:</u>

Converting food waste into compostable packaging

- This project began in January 2021 and the project partners included Monash University and Great Wrap Pty Ltd. After receiving a $210,000 grant and collaborating with multiple industries, the project was successful in creating 'Stretch Wrap', a biopolymer which is compostable, anaerobically biodegradable and marine biodegradable. The product shares similarities with cling film and can be used to package food and wrap pallets which are transported across Australia every day. Stretch Wrap has the potential to reduce packaging waste not only by vast amounts in Australia, but by millions of tonnes globally each year.

Development of high content recycled glass building material technology

- This project was supported by the Royal Melbourne Institute of Technology and aimed to increase the proportion of glass which is recycled across Australia. Currently, only 33% of the one million tonnes of glass which is manufactured in Australia is successfully recycled. The project developed technology which could produce new items with a 65% recycled glass content and has the potential to increase job opportunities in this field, as well as supporting Australia's National Waste Policy Action Plan.

CRC Achievements

CRC programs have created significant economic, social and environmental benefits across Australia. Over the years, CRC programs have catalysed the emergence of more than 144 spin-off companies, significantly contributing to the Australian economy (13). Since 1990, $4.6 billion in funding has been assigned to support the establishment of over 221 CRC grants and 76 CRC Projects Grants (14).
An evaluation in 2021 found (15):

- CRC Programs have been successful in delivering their objectives
- CRCs will generate an estimated $32.5 billion in economic impacts by 2025
- Australia's GDP is estimated to increase by $5.61 for every dollar of government funding for CRCs since 2005
- Completed CRC Projects are estimated to return $7.73 in economic benefit for every dollar of government funding since 2016

CRC Programs have been pivotal in increasing Australia's competitiveness and productivity, and have been a key contributor to economic progress.

References:

1: About us: https://www.cooperativeresearch.org.au/about/overview/
2: CRA_corporate members8pg_WEB.pdf:
https://www.cooperativeresearch.org.au/public/189/files/CRA_corporate%20members8pg_WEB.pdf
3: Our Members: https://www.cooperativeresearch.org.au/members-networks/our-members/
4: CRA Constitution - May 2023.pdf (cooperativeresearch.org.au):
https://www.cooperativeresearch.org.au/public/189/files/CRA%20Constitution%20-%20May%202023.pdf
5: Our History (cooperativeresearch.org.au): https://www.cooperativeresearch.org.au/about/our-history/
6: General Information: https://www.cooperativeresearch.org.au/resources/about-the-crc-program-/general-information/
7: Cooperative Research Centres Projects (CRC-P) Grants Round 17 (hainesconsultinggroup.com.au)
https://www.hainesconsultinggroup.com.au/post/cooperative-research-centres-projects-crc-p-grants
8: CRC Program FAQ:
https://research.unsw.edu.au/sites/default/files/uploads/groups/rso/CRC%20Program%20FAQ%20PDF.pdf
9: Cooperative Research Centres (CRC) Grants – Round 25 | business.gov.au: https://business.gov.au/Grants-and-Programs/Cooperative-Research-Centres-CRC-Grants
10: Cooperative Research Centres Projects (CRC-P) Grants | business.gov.au: https://business.gov.au/Grants-and-Programs/Cooperative-Research-Centres-Projects-CRCP-Grants
11: The Future Battery Industries Cooperative Research Centre: https://fbicrc.com.au/
12: Annual Report 2024: https://fbicrc.com.au/publications/annual-report-2024/
13: FINAL 2024 CRA ALUMNI project_web.pdf (cooperativeresearch.org.au):
https://www.cooperativeresearch.org.au/public/189/files/FINAL%202024%20CRA%20ALUMNI%20project_web.pdf
14: Pollination Security CRC – The Wheen Bee Foundation: https://www.wheenbeefoundation.org.au/our-work/research-projects/crc/
15: Cooperative Research Centres Program impact evaluation (industry.gov.au):
https://www.industry.gov.au/sites/default/files/2023-01/cooperative-research-centres-program-impact-evaluation.pdf
16: https://www.crcnsw.org.au/advocacyresearch/advocacy-research-policy-unit/