

# Auditing climate change RDE in primary industries

UNDERSTANDING  
CURRENT CLIMATE  
CHANGE INVESTMENT  
AND COLLABORATION

## CLIMATE CHANGE RESEARCH STRATEGY FOR PRIMARY INDUSTRIES (CCRSPI)

The CCRSPI partnership monitors investment in climate change research, development and extension (RDE) within primary industries to measure implementation of the cross-sectoral strategy and inform partners of opportunities for further investment.

The 2012 CCRSPI Audit identified existing projects, resources and capacity in climate change research across the primary industries sector. The Audit's data was based on submissions from each CCRSPI partner, the Australian Research Council (ARC) and National Climate Change Adaptation Research Facility (NCCARF), detailing research investments active during 2011–12\*. A total of 589 projects were identified, with a life-of-project value of \$549 million. Of these, CCRSPI partners support 483 with a life-of-project value of \$491 million.

The number of RDE projects has grown by 46% since the establishment of CCRSPI in 2008. The inclusion of 106 ARC projects in the 2012 Audit accounts for much of this increase (ARC investment was not measured in the 2008 Audit). Excluding ARC investment, CCRSPI partner investment has grown 20%.

\* The 2012 Audit captured the first round of investment through the Federal Government's Carbon Farming Futures Program, but not later rounds.

Industry sector investment in climate change RDE, as captured in the 2008 and 2012 CCRSPI audits.

Sector	2008 <sup>1</sup>	2012		
	Number of projects	Managed projects	Collaborative engagements	Total investment (\$) <sup>1</sup>
Cotton	8	1	11	107,872
Grains	55	56	27	120,730,471
Horticulture and vegetables	–	39	5	21,522,163
Sugar	11	4	9	3,450,310
Viticulture (grape and wine)	4	11	6	24,799,390
Forestry	27	32	3	14,851,483
Grazing (beef, dairy, wool)	19	120	44	134,338,951
Intensive livestock (pig, chicken, feedlot beef)	16	19	22	11,273,553
Fisheries and marine	20	74	19	44,306,844
Water resources	14	12	2	4,531,036
New and emerging industries	Not reported	12	30	4,215,210
Multi-sectoral	230	209	50	164,870,335
TOTAL	404	589	228	548,997,618

1. The 2008 Audit did not include budget data.

### Patterns of collaboration

Of the 589 current projects, 228 are collaborative, involving at least two investors or research organisations. Around 35% of all projects involve collaboration across industry sectors, while over 40% involve co-investment.

The beef and grain industries dominate in collaborative activities due to their role in mixed farming. This is reflected in the work of both the respective research and development corporations in managing national collaborative research programs. The new and emerging industries sector is also one of the leading cross-sectoral collaborators, perhaps because a new industry often results from a traditional sector exploring alternative options through transformative adaptation.

All sectors except for the fisheries and marine sector are involved in cross-sectoral collaborations, which may reflect the unique impact climate change has on the marine environment.



## Focus of current investment in relation to the CCRSPI Strategy

The CCRSPI RDE Strategy was built around three overarching outcomes:

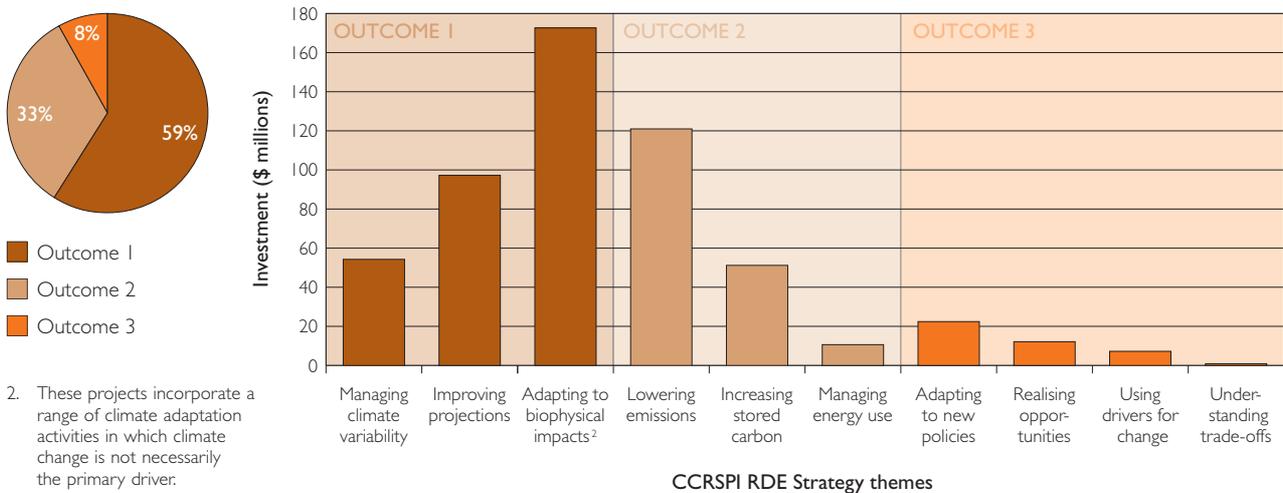
Outcome 1: Production systems based on best available climate information

Outcome 2: Lowering greenhouse gas intensity of products

Outcome 3: Proactive participation in a carbon constrained economy.

The spread of investment across the three outcomes and the 10 themes that support these outcomes is illustrated below.

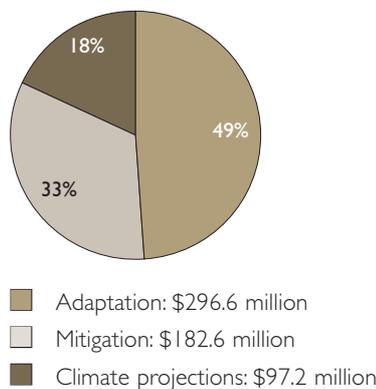
Distribution of current RDE investment against 2012–17 CCRSPI RDE Strategy outcomes and themes.



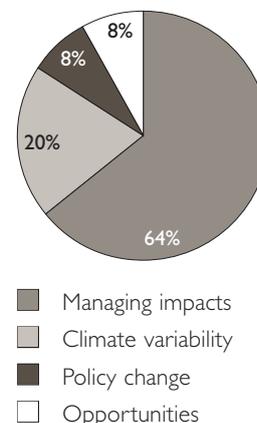
Of the three key climate change areas—mitigation, adaptation and projections—adaptation constitutes almost half of the current investment. The primary driver of adaptation investments is the perceived need to manage climate variability as well as climate change.

The 228 collaborative projects audited involve investments across all 10 of the CCRSPI themes, particularly those associated with Outcome 3.

Allocation of projects across adaptation, mitigation and climate projections.



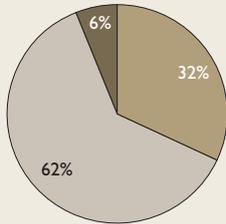
Drivers of project investment.



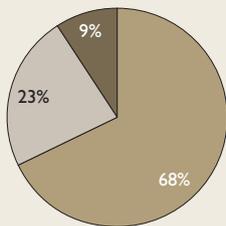
## KEY TO CHARTS

- Adaptation
- Mitigation
- Climate projections

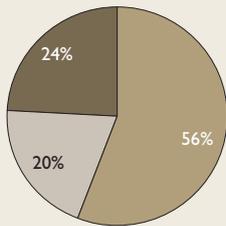
### Grazing and intensive livestock.



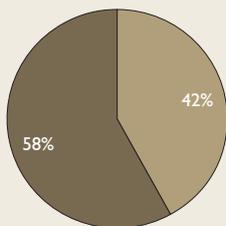
### Grains, cotton and sugar.



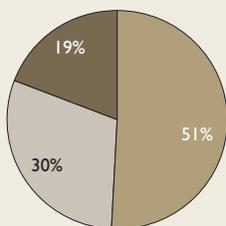
### Horticulture, vegetables and viticulture.



### Fisheries and marine.



### Multi-sectoral.



## Investment focus within sectors

The RDE investments in each of adaptation, mitigation and projections vary between industry sectors, with mitigation the dominant investment focus in the livestock sectors and adaptation dominant in the grains and cropping sectors.

Most of the grazing and intensive livestock sectors' investments in mitigation are directed towards lowering emissions, and are managed through a small number of collaborative programs, including the Reducing Emissions from Livestock Research Program. The grains, cotton and sugar sectors have been major partners in the Managing Climate Variability Program, hence their focus on improving climate projections and adapting to climate variability.

The horticulture, vegetables and viticulture investment profile is marked by its diversity, with investment across all 10 themes of the CCRSPI RDE Strategy. The water sensitivity of these sectors, including their reliance on irrigation, underlies the focus on adaptation. The fisheries and marine data suggests that it is the only sector not to invest significantly in mitigation—likely, in part, because their projects are funded by the adaptation-focused NCCARF. The sector's strong support of projections research relates to its location in sensitive marine zones such as the Great Barrier Reef.

Multi-sectoral investment represents the largest single source of primary industries climate change expenditure (35%). It covers the full range of CCRSPI RDE Strategy themes, with investment more evenly distributed across the Strategy's three overarching outcomes and across mitigation, adaptation and projections, than in the individual sectors.

## Non-CCRSPI investment

The 2012 Audit has attempted to broaden the scope of the 2008 Audit to capture ARC funding—the largest non-CCRSPI source of investment that can be readily scrutinised. The ARC supports around 18% of current projects and 12% of overall current investment. ARC investment dominates in the areas associated with basic science and public good research, investing principally in forestry, water resource and marine research. The ARC is also a major investor in improving forecasts and projections and policy, and institutional research.

The CCRSPI Secretariat gratefully acknowledges Richard Price of Kiri-ganai Research for his work in producing the 2012 CCRSPI Audit and the CCRSPI partners who gave their time to provide Audit data.

## FOR MORE INFORMATION

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