



Australian Government

Australian Government Response

**The House of Representatives
Standing Committee on Primary Industries
and Resources Report – Farming the Future:
The role of government in assisting Australian farmers
to adapt to the impacts of climate change**

October 2012

Introduction

On 5 February 2009, the House of Representatives Standing Committee on Primary Industries and Resources announced its inquiry into the role of government in assisting Australian farmers to adapt to the impacts of climate change. The Committee's terms of reference were:

- Current and prospective adaptations to the impacts of climate change on agriculture and the potential impacts on downstream processing
- The role of government in:
 - augmenting the shift towards farming practices which promote resilience in the farm sector in the face of climate change
 - promoting research, extension and training which assists the farm sector to better adapt to climate change
- The role of rural research and development in assisting farmers to adapt to the impacts of climate change.

On 15 March 2010, the House of Representative Standing Committee tabled a final report. The Committee's report made 15 recommendations.

Government Response

The government has considered the recommendations of the Standing Committee report. The government's response addresses each individual recommendation.

Making Decisions On-farm

Recommendation 1

The Committee recommends that the Australian Government support rural counselling and support groups, such as Rural Alive and Well, and place funding for such groups on a permanent and regular basis.

The role these groups have in rural and regional communities is recognised and supported by the Australian Government. However, circumstances and needs regularly change, therefore a flexible funding model is needed to provide the balance between satisfying immediate demand and funding services and activities over a longer term. Non-ongoing funding also provides greater accountability and transparency, and means services can be reviewed and modified to ensure they are effectively meeting the demands of rural society.

Against this background, the government is committed to policies that promote the long-term outcomes of social inclusion and the economic and social wellbeing of all Australians.

The government supports a range of rural health services in rural and remote communities to improve access to additional specialist, primary and allied health care services for those communities. For example, the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) provides funding to non-government organisations to deliver mental health services that focus on prevention, early intervention and recovery¹.

¹ More information about the programs offered by FaHCSIA is available at www.fahcsia.gov.au

The government, in partnership with the Western Australian Government, conducted a pilot of drought reform measures over 2010–12 to help farmers better manage risks and prepare for future challenges.

In April 2012 the Australian, state and territory primary industries ministers tasked officials with developing a proposal for a future drought package that moves the emphasis from crisis management to risk management and preparedness by farmers. The outcomes of the pilot and previous reviews will inform development of the package. This proposal will be considered by ministers at the Standing Council on Primary Industries meeting in October 2012, with a view to the new package being implemented from 1 July 2014. The aim is to better support farmers, their families and rural communities in preparing for future challenges, rather than waiting until they are in crisis to offer assistance.

The Rural Financial Counselling Service² (RFCS) program has been extended from 2008–11 to 30 June 2015, and is providing \$54.9 million over four years, as announced by Senator the Hon Joe Ludwig, Minister for Agriculture, Fisheries and Forestry on 4 May 2011. The RFCS provides grants to state and regional organisations for free rural counselling to primary producers, fishers and small rural businesses who are suffering financial hardship.

Recommendation 2

The Committee recommends that the Australian Government, as part of its overall response to issues affecting agriculture and climate change, take more effective account of the needs and decision making processes of farmers and ensure that the delivery of adaptation programs is flexible and responsive to the needs of farmers and rural communities.

The government supports this recommendation.

The Australian Government has an important role to play in contributing to the provision of information that would not otherwise be available, so that land managers can make well-informed decisions. Individuals and farm businesses need information and tools to support effective adaptation decisions and to help sectors and regions assess their vulnerabilities. The government also recognises that adaptation programs and strategies must be flexible and responsive.

The government's position paper, *Adapting to Climate Change in Australia*³, sets out the government's vision for adapting to the impacts of climate change and proposes practical steps to realise that vision.

The government also has a role in assisting a market response to adaptation throughout Australia and in continuing to fund research for the public good. Within the Australia's Farming Future Climate Change Research Program, researchers involved in the \$11.5 million Adaptation Research Program worked directly with land managers to put forward their strategies for climate change adaptation. Researchers then tested these strategies through modelling and on-farm demonstrations in the \$7.7 million Demonstration Program, which allowed land managers to test the effectiveness of these management strategies on current production and under credible future climate scenarios.

Under the government's plan for a clean energy future, \$44 million is available over five years to enable natural resource management (NRM) regions to better plan for climate change impacts and

² More information is available at www.daff.gov.au/agriculture-food/drought/rfcs

³ The paper is available at www.climatechange.gov.au/publications/adaptation/position-paper.aspx

maximise the benefits from carbon farming projects. Part of this program will deliver regional climate change projections and impacts information to inform regional planning. This information will be developed in consultation with researchers and regional NRM organisations to ensure it meets their planning needs. This funding will also support regional NRM organisations to plan for climate change by updating existing regional NRM plans to a nationally consistent standard. Plans will be revised following engagement and consultation with local communities and stakeholders about regional climate change impacts.

The Landcare network assists land managers to improve farm business decisions by providing a link to information, research and expertise. The government continues to invest in Landcare on national issues such as drought, climate change, biosecurity and productivity through its Caring for our Country initiative.

Current and Prospective Adaptations

Recommendation 3

The Committee recommends that the Australian Government, as part of its overall response to issues affecting agriculture and climate change, invest research funding in the following high priority areas:

- *soil carbon sequestration*
- *soil stabilisation and pasture improvements using methods such as perennial pastures, pasture cropping, rotational grazing, biodynamic farming, minimum/no till cultivation and controlled traffic farming*
- *soil water retention strategies and water use efficiency*
- *landscape planning and natural resource management; and*
- *risk management.*

The government supports this recommendation and these areas are a high priority for current research occurring across a range of environments and systems with funding from government and industry.

Under the government's Clean Energy Future plan \$1.7 billion of carbon revenues will be invested ~~in the land sector over the next six years. This includes the ongoing Carbon Farming Futures~~ Filling the Research Gap program. Through this program the government will invest \$201 million to support research into emerging abatement technologies, strategies and innovative management practices that improve soil carbon, reduce greenhouse gas emissions and enhance sustainable agricultural practices. Novel approaches, including new crop and grazing species, biochar and biofuels will be targeted.

As part of Carbon Farming Futures, new research findings will be tested and demonstrated on-farm as part of the Action on the Ground program. This will ensure that laboratory results can be replicated in real farming situations. Regional land managers and research, industry and farming organisations will be able to access grants to implement innovative management practices to reduce emissions and store carbon, including demonstrating new ways of sequestering soil carbon.

Carbon Farming Futures programs will build on the government's investment in soil carbon sequestration through the Soil Carbon Research Program (SCRCP)⁴, a component of the Climate Change Research Program. The national SCRCP furthered our understanding of:

- the role Australian soils could play in carbon sequestration
- the level of carbon stocks in Australian soils
- the impacts of management practices on soil carbon.

The first phase of the Caring for our Country initiative 2008–13 seeks to achieve an environment that is healthy, better protected, well managed and resilient, and provides essential ecosystem services in a changing climate. Caring for our Country is currently providing over \$600 million for sustainable agriculture and Landcare projects and activities including the Reef Rescue Program and a national network of Regional Landcare Facilitators.

The annual business plan targets have focused on improving management practices that improve soil condition and biodiversity, including investment in land management strategies that store soil carbon. By 2013, over 42 000 farmers will have been assisted to increase uptake of management practices that deliver improved ecosystem services. Through this assistance, land managers will be better positioned to respond to threats and opportunities created by changing circumstances, while also increasing the environmental resilience of the natural resource base and reduce business risk. A further 6 700 farmers will be supported to adopt activities that contribute to the ongoing conservation and protection of biodiversity, and at least 42 000 farmers will participate in events to increase their knowledge and skills in sustainable land management.

The Caring for our Country initiative has also supported the development of improved methods for monitoring changes in soil carbon sequestration. The program continues to support methods for monitoring wind and water erosion, ground cover management and soil acidification. These processes impact on soil stabilisation, soil water retention and water use efficiency.

The Reef Rescue Program will assist almost 2 000 farmers and land managers in priority areas to adopt new soil, water, nutrient and pesticide management practices to improve the quality of water entering the Great Barrier Reef lagoon.

Geoscience Australia (GA) has produced a Land Cover map and dataset covering Australia using time series satellite imagery. GA is now producing a time series of images of the continent using its archive of satellite imagery.

The use of time-series data enables changes in land areas due to human and natural processes to be monitored over time. This information can be used to monitor the effect of climate change adaptation strategies and provide information to enable these strategies to be adjusted as required to improve landscape planning and natural resource management.

As discussed in Recommendation 2, the Australian, state and territory governments are working to reform national drought-related programs.

⁴ More information is available at www.daff.gov.au/climatechange and www.csiro.au/Outcomes/Environment/Australian-Landscapes/soil-carbon.aspx

Recommendation 4

The Committee recommends that the Australian Government, in conjunction with State and Territory Governments, establish a national Continuously Operating Reference Station network across Australia and regulate for signal compatibility between different GPS systems.

The government supports this recommendation.

The Australian and New Zealand Land Information Council (ANZLIC) is developing a policy on the building of a national positioning infrastructure based on connecting national and jurisdictional networks of Continuously Operating Reference Stations.

The ANZLIC⁵ policy will define how the networks will be made compatible through the use of standards for the downloading and sharing of positioning data.

Recommendation 5

The Committee recommends that the Australian Government support further research efforts into the mitigation of greenhouse gas emissions from agriculture.

The government supports this recommendation.

Through the Clean Energy Future plan the government has increased research investment effort into mitigating greenhouse gas emissions from agriculture that will be useful and relevant to land managers and industries to help them lower greenhouse gas emissions while maintaining productivity.

The carbon price mechanism commenced on 1 July 2012. Farmers will not have to pay for greenhouse gas emissions from agricultural activities and the fuel they use for farm equipment and personal vehicles is not covered under the carbon price.

Over \$1.7 billion of carbon revenues raised from the top polluting companies in Australia is being invested in the land sector over six years, through new funding programs as part of the Australian Government's Clean Energy Future plan.

These new programs are complementary to the Carbon Farming Initiative (CFI)⁶. The Carbon Farming Initiative allows farmers and other land managers to earn carbon credits by storing carbon or reducing greenhouse gas emissions on the land. These credits can be sold to people and businesses wishing to offset their emissions.

As described in the response to Recommendation 3, the Clean Energy Future plan includes the ongoing Carbon Farming Futures program, which is investing \$429 million to help farmers and other land managers benefit from the economic opportunities of the CFI. Carbon Farming Futures measures include:

- Filling the Research Gap, a \$201 million investment in research into new ways of storing carbon and reducing pollution in the land sector, as discussed in Recommendation 3
- Action on the Ground, a \$99 million program that will provide grant funding to regional farmers and other land managers and research, industry and farming organisations across

⁵ More information is available at www.anzlic.org.au

⁶ Please visit www.climatechange.gov.au/cfi for more information about the Carbon Farming Initiative

Australia to undertake projects to implement innovative management practices to achieve sustainable outcomes, reduce emissions and boost soil carbon stores. Grants will be available to farmers and other land managers to take action on the ground, including testing new ways to increase soil carbon

- \$20 million to convert this important research into practical methodologies for the CFI
- Extension and Outreach, a \$64 million program for activities to provide information and support to farmers and other land managers for integrating carbon management into farm planning, understanding new research and farm techniques, and improving productivity and farm sustainability.

Carbon Farming Futures builds on research undertaken through the Climate Change Research Program⁷. The program attracted strong stakeholder interest and resulted in an investment of approximately \$130 million, including contributions from partner organisations. Research focused on reducing greenhouse pollution, better soil management and adapting to a changing climate.

The Climate Change Research Program established the following research programs with investment from the Australian Government, Research and Development Corporations (RDCs), universities, state governments and industry:

- \$20 million Soil Carbon Research Program
- \$4.7 million Nitrous Oxide Research Program
- \$28.7 million Reducing Emissions from Livestock Research Program
- \$2.7 million National Biochar Initiative
- \$27 million Demonstration Research Program.

Energy on farms

Recommendation 6

The Committee recommends that the Australian Government, as part of its overall response to issues affecting agriculture and climate change, increase its investment and support for research into energy efficiency in the agriculture sector and the development of alternative energy and alternative fuels on-farm, particularly in regard to:

- *biofuels*
- *biomass from agricultural waste; and*
- *biochar.*

The government recognises the importance of energy efficiency in the agriculture sector. It has committed significant resources to support clean energy development and efficiency. The Clean Energy Future plan identifies that businesses across all industry sectors can implement more energy-efficient technologies and production systems, eliminating waste, lowering costs and reducing pollution⁸. The plan is focusing the government's significant investments in renewable energy in a number of ways.

As part of the Clean Energy Future plan, the government will establish a \$10 billion Clean Energy Finance Corporation (CEFC) that will invest in the commercialisation and deployment of renewable energy, energy efficiency and low pollution energy technologies. The CEFC will be independent

⁷ More information is available at www.daff.gov.au/climatechange

⁸ More information is available at www.cleanenergyfuture.gov.au/clean-energy-future/energy-efficiency/

from the government and will play a vital role in unlocking significant new private investment into clean energy projects through a variety of funding tools including loans and equity investments.

The government also announced a new independent Australian Renewable Energy Agency (ARENA) to streamline and co-ordinate the administration of \$3.2 billion in existing support for Research and Development (R&D), demonstration and commercialisation of renewable energy technologies. ARENA will oversee government support for projects currently managed by the Australian Centre for Renewable Energy (ACRE), the Department of Resources, Energy and Tourism and the Australian Solar Institute.

Together, these new initiatives will provide a robust framework to build a critical mass of renewable energy, energy efficiency and low-pollution energy projects across Australia. In addition, the government will support innovation through the \$200 million Clean Technology Innovation Program by providing grants over five years to support business investment in R&D in the areas of renewable energy, low pollution technology and energy efficiency. This funding will be in addition to the broader R&D tax concession and will help Australian businesses creatively work towards a clean energy future.

The government has also announced the \$200 million Food and Foundries Investment Program that will assist food processors and the metal forging and foundry industries improve the energy efficiency of their businesses. This program will provide grants for investments in energy efficient capital equipment and low pollution technologies, processes and products.

The government has also decided to expedite the development of a national energy savings initiative and will examine further how such a scheme may assist households and businesses to adjust to rising energy costs.

The Energy Efficiency Opportunities program requires and supports large energy-using businesses to improve their energy efficiency. It does this by requiring businesses to undertake rigorous and comprehensive assessments to identify, evaluate and report publicly on cost effective energy savings opportunities.

Energy efficiency offers significant opportunities to reduce emissions and improve productivity. As such, energy efficiency forms a critical part of the government's approach to tackling climate change and delivering a low carbon economy. There is also a significant range of Australian Government activities in relation to alternative energies and fuels identified in this recommendation.

Biofuels

The government supports the development of a range of alternative fuel sources and technologies, including sustainable biofuels. The Australian Government released the *Strategic Framework for Alternative Transport Fuels* (Strategic Framework) on 13 December 2011. The Strategic Framework was developed in consultation with industry, government and other stakeholders throughout 2011 and is an input to the Energy White Paper. The Strategic Framework establishes a long-term approach to a market led adoption of alternative transport fuels in Australia and includes 20 actions for industry, government and other stakeholders to implement and address identified barriers to uptake. Implementation will occur progressively over the period to 2030 and decisions regarding the need for further medium and long-term actions will be informed by the outcomes of the Strategic Framework's short-term actions.

The Advanced Biofuels Study by LEK Consulting, released on 14 December 2011, recognised that an advanced biofuels industry would have an agricultural foundation and therefore offer considerable job creation and create new economic activity in rural and regional areas. The Government has a number of measures in place to support the development of an advanced biofuels industry.

On 24 February 2012, the Minister for Resources and Energy launched the Advanced Biofuels Investment Readiness (ABIR) program. The ABIR program is a \$15 million competitive merit-based program, which will support the development of advanced biofuels technologies by seeking to progress the deployment of pre-commercial demonstration projects for the production of high energy, drop-in advanced biofuels in Australia.

The Minister also announced the \$5 million Foundation Grant to James Cook University for the High Energy Algal Fuels Project. The Project will include the research, development, and demonstration of biofuels from a macroalgal feedstock.

The government is also providing \$10 million to five projects under the Second Generation Biofuels Research and Development Program to support research, development and demonstration of biofuel technologies.

From 1 July 2012, the Australian Renewable Energy Agency (ARENA) will assume responsibility for administering the Government's renewable energy projects, including the bioenergy programs. ARENA forms part of the Government's \$3.2 billion commitment to develop a range of renewable energy technologies to support Australia's transition to a low carbon economy.

Biomass

The government's Renewable Energy Target scheme, which is designed to ensure that the equivalent of 20 per cent of Australia's electricity supply will come from renewable sources by 2020, allows biomass as a renewable energy source. Eligible biomass sources include energy crops and agricultural wastes and wastes from processing agricultural products (including bagasse), with additional rules governing the conditions of eligibility of some sources. As part of the July 2011 announcement of the government's Clean Energy Future plan, native forest wood waste will no longer be an eligible biomass source.

The first methodology that was approved for use under the Carbon Farming Initiative was the flaring combustion of methane collected from manure in piggeries. This will encourage the uptake of on-farm energy generation. The development of this methodology was made possible by government and industry investments, such as the Climate Change Research Program's second phase of the Australian Methane to Markets in Agriculture Program.

Biochar

In addition the government has invested \$1.4 million in the National Biochar Initiative⁹ under Australia's Farming Future and provided \$2 million for the Biochar Capacity Building Program¹⁰

⁹ More information is available at www.csiro.au/science/Biochar-Overview

¹⁰ More information is available at www.daff.gov.au/climatechange/cfi/biochar

under the Carbon Farming Initiative (CFI). The Clean Energy Future plan provides opportunities for investment in biochar research projects through the Filling the Research Gap¹¹ program.

This research will inform the development of methodologies for use under the CFI. The CFI allows farmers and other land managers to earn carbon credits by storing carbon or reducing greenhouse gas emissions on the land. These credits can be sold to people and businesses wishing to offset their emissions.

Climate modelling and weather forecasting

Recommendation 7

The Committee recommends that the Australian Government increase funding for research into improving the consistency and accuracy of weather and climate forecasting, especially at a seasonal and regional level.

The government recognises the importance of research into weather and climate forecasting. Any increased funding for such research would be dependent upon available Australian Government resources. Funding needs to allow for the necessary transition of research into operational services.

In 2009, the government adopted Australian Climate Change Science: A National Framework (the Framework), which identified five national capabilities, including 'predicting future climate'. The Framework noted that 'Australia needs information about climate change at all time scales (days, months, years, decades and centuries) and across the range of spatial scales (global, regional and local)'. The High Level Coordination Group for climate change science has developed a Plan for Implementing Climate Change Science in Australia that is currently before government for consideration. This plan establishes how the community will work together to improve integration, coordination and collaboration to support the delivery of world-class climate change science. The government notes that there is already investment in climate forecasting at the seasonal and regional level, including through the South Eastern Australian Climate Initiative, the Managing Climate Variability Program, the University of Tasmania via the Antarctic Climate and Ecosystems Cooperative Research Centre, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Bureau of Meteorology.

The emerging scientific capability and technical capacity to improve seasonal and regional prediction provides an opportunity to improve services to the farming community additional to those supported by existing research. The climatic extremes experienced over the past 15 years, such as severe and widespread droughts and floods, are key reasons why improving prediction of such events is important to Australia.

¹¹ More information is available at www.daff.gov.au/climatechange/carbonfarmingfutures/flrg

Recommendation 8

The Committee recommends that the Australian Government develop an education and training scheme for farmers in the understanding and use of weather and climate information.

The government supports this recommendation.

The Bureau of Meteorology already provides weather and climate information, including education workshops, in support of farmers and rural communities, often in partnership with other agencies. The most effective workshops are those where weather and climate information is integrated with many other factors needed for key decision-making.

The pilot of drought reform measures in Western Australia included the Farm Planning program. The program's objectives were to enhance farmers' skills in business, natural resource management and personal planning, as well as to increase the number of enterprises with comprehensive strategic business plans. The program included a 'Managing Environments' module, which was designed to assist participants to identify on-farm practices that would improve the sustainability of their farm's natural resource base and better manage in the face of a variable climate.

The review of the pilot recommended that governments should support farm business training as a means of improving resilience and adaptability in the farm sector. It found that the Farm Planning program included appropriate content that will help farmers to better prepare for and manage future challenges. The outcomes of the pilot will inform the development of a future package of drought-related programs (more information is provided at Recommendation 1).

Research and extensionRecommendation 9

The Committee recommends that the Australian Government maintain its commitment to climate change research pertaining to Australia's agricultural industries, ensuring that the funding is committed, sustained and pays due attention to regional as well as national needs and priorities. Climate change research must reflect the changes affecting different regions, soils and topography—as all have an impact on changes in farming practices to deal with them.

The government supports this recommendation and remains committed to climate variability and change research, and rural research and development (R&D).

As discussed in Recommendation 3, the Clean Energy Future plan includes measures to support R&D in the land sector through the ongoing Carbon Farming Futures.

Investment in R&D and innovation is vital for ongoing growth and improvement in the productivity, profitability, competitiveness and sustainability of Australia's agriculture, fisheries, forestry and food industries. National spending on primary industries R&D is estimated to be over \$1.6 billion per annum¹². Government investment (both federal and state/territory) in primary industries' innovation:

- recognises that the large number of small producers could not gain an economic return from individual investment in R&D and that farm products are largely uniform and non-rival in nature

¹² DAFF Submission to Productivity Commission's Rural Research and Development Inquiry www.pc.gov.au/data/assets/pdf_file/0018/100683/sub156.pdf

- acknowledges the significant intra- and inter-industry spillovers and regional and rural benefits that accrue from publicly supported R&D
- addresses important national development and sustainability objectives, such as biosecurity and natural resource management.

In February 2009, the government announced the creation of a key advisory body on rural R&D – the Rural R&D Council¹³ (the council). As part of its terms of reference, the council was asked to develop a National Strategic Rural R&D Investment Plan and establish a performance measurement and reporting framework against key performance indicators.

In February 2010, the government asked the Productivity Commission¹⁴ (PC) to examine the effectiveness of the research and development corporation (RDC) model and the appropriateness of the current funding levels and arrangements for driving productivity improvements and improving the competitiveness of Australia's rural industries through R&D.

Recommendation 10

The Committee recommends that the Australian Government, as part of its ongoing strategy development to issues affecting agriculture and climate change, develop a strategy to capture, evaluate and disseminate the range of farmer driven innovations that have a significant capacity to increase the resilience and productivity of farm enterprises.

The government supports a range of information dissemination mechanisms.

As part of the Clean Energy Future plan the Carbon Farming Futures program includes \$64 million over six years for extension and outreach. This will support coordinated communication activities to provide technical information and support for farmers and other land managers to participate in the Carbon Farming Initiative (CFI) and benefit from carbon farming. Among its responsibilities, extension and outreach activities will provide technical information and support about integrating carbon management into farm planning. It will also assist farmers and other land managers to explore opportunities to participate in the CFI.

Large-scale networks such as Primary Industries Adaptation Research Network (PIARN) and the Climate Change Research Strategy for Primary Industries (CCRSPI) play a significant role in gathering and communicating relevant information.

CCRSPI, for example, is leading the national collaboration, coordination and communication of climate change research, development and extension activity for Australia's primary industries. It is a collaborative response to the opportunities and challenges posed by climate change for Australia's primary industries and is founded on primary industries communicating with each other so that knowledge and information can be shared.

The government through its Climate Change Research Program, has also enabled researchers to work directly with land managers, enabling them to capture and test land manager innovations. The government is also funding projects through the research program that will disseminate research results to land managers. As discussed in the response to Recommendation 2, these projects involve state governments, the Commonwealth Scientific Industrial Research Organisation (CSIRO),

¹³ More information is available at www.daff.gov.au/agriculture-food/innovation/rural-research-and-development-council

¹⁴ More information is available at www.pc.gov.au/projects/inquiry/rural-research

universities, research and development corporations, industry and farming organisations, and have large extension networks.

Several effective ways to capture, evaluate and disseminate information already exist on state, regional, local and sectoral levels through the use of extension officers, regional reference groups, field days and the on-farm demonstration of new technologies and practices, to name a few. The government also gathers this information and examples of farmer driven innovations within programs and strategies such as the Australia's Farming Future, Caring for our Country, Australia's Biodiversity Conservation Strategy and the consultation draft of Australia's Native Vegetation Framework.

Landcare also offers the social infrastructure and a means to provide land managers with the information, knowledge and the confidence to undertake sustainable farming and land management practices. This supports improved natural resource management, including increased productivity, addressing the challenges of climate change, and biodiversity outcomes.

Recommendation 11

The Committee recommends that the Australian Government ensures that there is an overall body to receive and analyse research and co-ordinate research across the nation in relation to climate change adaptation in agriculture, and that said body is given the necessary resources of staff and funds to carry out its role.

The government supports this recommendation and agrees that coordination of research is critical to avoid unnecessary overlap and identify gaps.

As discussed in Recommendation 10, the Carbon Farming Futures–Extension and Outreach program will also provide technical information and support to farmers and other land managers about enhancing productivity and environmental sustainability.

The National Climate Change Adaptation Research Facility (NCCARF)–established in 2007 by the government and located at Griffith University–has a role in analysing and coordinating research, particularly through its Primary Industries Adaptation Research Network (PIARN). The aim of the PIARN is to facilitate collaborative climate change adaptation research, and open exchange of information and sharing of climate change adaptation resources. The Network will work with NCCARF to implement the Primary Industries National Adaptation Research Plan.

Recommendation 12

*The Committee recommends that the Australian Government give greater consideration to **better integration** of local and regional organisations into its overall response to the issues affecting agriculture and climate change, and **provide additional funding** to support the management role of these local and regional organisations.*

The government supports this recommendation.

The government agrees that local and regional organisations as well as Landcare and other community groups provide an invaluable role in responding to issues affecting agriculture and climate change. Working with these organisations and groups will increase opportunities for the government and participants.

The government is supporting local groups and regional organisations to deliver capacity building and on-ground landscape scale activities (on and off-farm) through the Caring for our Country initiative, the National Landcare Facilitator Network and the Australia's Farming Future Climate Change Research Program.

In communicating the Carbon Farming Initiative (CFI), the government is providing \$4 million in funds and utilising the experience of the National Landcare Facilitator Network and local and regional organisations. The Clean Energy Future plan includes funding to support regional Natural Resource Management organisations to update existing plans to guide responses to climate change impacts on the land and to maximise the environmental benefits of carbon farming projects.

As discussed in the responses to Recommendations 5 and 10, the government is also providing \$64 million over the first six years for extension and outreach activities. These activities will motivate farmers and other land managers to explore opportunities to participate in the CFI by providing technical information and support about integrating carbon management into farm planning; new research and farm techniques for the property and farm business; and enhancing productivity and environmental sustainability.

Regional Development Australia, and its network of 55 committees, brings together key stakeholders in the development of regional and local solutions, including the three spheres of government, regional organisations and communities. Committees within Regional Development Australia work to identify regional issues and opportunities. They work with communities to develop local solutions.

Role of Government

Recommendation 13

The Committee recommends that the Australian Government give further consideration to the analysis of government policy and outcomes in the submission to the current inquiry made by the Future Farm Industries CRC, with a view to ensuring the better coordination of research and extension efforts and the delivery of effective policy outcomes.

The government supports this recommendation.

Since the release of the House of Representatives Standing Committee on Primary Industries and Resources Committee report, the government and other organisations have worked to ensure there is better coordination of research, extension and policy; as such there is currently a high degree of collaboration in a number of areas across the country.

Collaboration on research, development and extension (RD&E) also occurs through the National Primary Industries RD&E Framework (the framework). The framework has been jointly developed by industry bodies, universities, research and development corporations (RDCs), the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and state departments of primary industries. It provides the structure and institutional arrangements to ensure research and resources are focused and used efficiently, effectively and collaboratively to achieve the best outcome for primary industries.

Several programs, initiatives and networks whose business models incorporate collaboration and extension of climate change research include:

- Climate Change Research Program
- Climate Change Research Strategy for Primary Industries (CCRSPI)
- Primary Industries Adaptation Research Network (PIARN)
- Rural R&D Council
- CSIRO Climate Adaptation Flagship
- National Climate Change Adaptation Research Facility (NCCARF)
- Carbon Farming Futures Extension and Outreach Program.

On 23 July 2012 the government released the Rural Research and Development Policy Statement¹⁵. Included in the statement are the government's final response to the Productivity Commission Inquiry on Rural Research and Development Corporations and the Rural Research and Development Council's National Strategic Rural Research and Development Plan.

The statement includes significant improvements to rural research, development and extension which will see greater collaboration on research, efforts to increase investment, and a drive to improve the adoption of innovation across the sector.

In addition to these examples, there are a variety of organisations that currently communicate and extend the results of research in conjunction with the government, RDCs, state and local governments and universities.

Recommendation 14

The Committee recommends that the Australian Government, as part of its overall response to issues affecting agriculture and climate change, explore further opportunities to facilitate adaptation to climate variability and climate change through the use of targeted, industry and issue specific, incentives.

The government agrees it has a role in facilitating adaptation to climate variability and climate change, however the government considers land managers are best placed to manage the risks associated with their own farms. It would be inefficient for governments on a regular basis to make decisions about how individuals and businesses should adapt to climate change impacts through specific incentives. Instead, targeted, industry and issue specific incentives should be used where they are considered most appropriate and effective, developed in close consultation with the sector and must be consistent with Australia's international trade obligations.

The private benefits land managers can gain from adapting to climate change provide an incentive for them to take reasonable steps to manage their exposure to those risks and so reduce the potential costs to them from climate change impacts.

Recommendation 15

The Committee recommends that the Australian Government place funding for local and community organisations engaged in the work of supporting farmers in adapting to climate variability and climate change upon a permanent and regular basis.

The government does not agree with this recommendation in terms of permanent funding. Non-ongoing funding provides a platform for open and transparent review and modification of new and

¹⁵ More information is available at www.daff.gov.au/agriculture-food/innovation/rural-research-and-development-policy

existing funding agreements and ensures the appropriateness, effectiveness and ongoing progress of programs that meet industry and community requirements.

The government seeks to fund local and community organisations supporting land managers adapting to climate change and climate variability through competitive grants programs such as Australia's Farming Future. For example the National Adaptation and Mitigation Initiative involved the Grains Research and Development Corporation, state governments, the Birchip Cropping Group and other farming systems groups across Australia.

Through these funding opportunities, the government aims to bring together a variety of organisations such as farmer groups, research providers, state governments and local and community groups to successfully communicate and extend the outcomes of research, and support land managers to adapt to the impacts of climate change.