



Sustainable Land Management And Climate Change Research Programme 2019/20 Application Guidelines

**Application opening date:
10 May 2019**

**Application Closing Date:
3 pm, 14 June 2019**

No late entries will be accepted

May 2019

Disclaimer

The Ministry for Primary Industries reserves the right to withdraw or amend this document and/or the timelines within it.

All applications for the Sustainable Land Management and Climate Change (SLMACC) Research Programme to be sent to the email address: funding@mpi.govt.nz by 3.00 pm, 14 June 2019.

Requests for further copies should be directed to:

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1. PART A – Key Information

THE PURPOSE AND SCOPE OF THE SLMACC RESEARCH PROGRAMME

The SLMACC research programme was launched by Government in September 2007. Its aim is to help the agriculture and forestry sectors address the challenges arising from climate change.

The SLMACC research programme aims to fund research into:

- understanding impacts and supporting adaptation to climate change;
- reducing agricultural greenhouse gases;
- encouraging the establishment of forest sinks;
- managing deforestation; and
- capitalising on new business opportunities arising from the world's response to climate change.

The SLMACC research programme invests in targeted-basic, applied and policy research, across 5 themes:

- the impacts of, and adaptation to climate change;
- mitigation of agricultural greenhouse gas emissions;
- enhancement of forest sinks;
- knowledge transfer/extension; and
- cross-cutting issues, including economic analysis, life-cycle analysis, farm, catchment and systems analysis and social impacts.

ELIGIBILITY FOR FUNDING

Organisations or persons with the ability to undertake research in their own right are eligible.

While not a requirement to be successful in receiving funding, collaboration and co-funding arrangements on research applications between New Zealand-based organisations, and by New Zealand and international organisations are encouraged.

TYPE AND LENGTH OF PROJECTS AND FUNDING AVAILABLE

Funding available

The total funding available for the 2019/20 financial year is \$1.02M excl GST.

The available funding will be spread across two research themes:

Research Theme 1: Impacts of climate change and adaptation;

Research Theme 2: Extension of climate change research.

Under each of these research themes, the Ministry for Primary Industries (MPI) has specified the number of “project topics”. The funds available are indicative only, and final allocations will depend on the project area.

Length of Projects

Funding will be provided for 1 or 2 year projects (dependant on the project topic). These projects:

- may address knowledge gaps and urgent areas of research and policy research;

- may involve the synthesis and expansion of existing knowledge;
- may contribute directly to climate change policy development;
- will contribute to a single priority topic; and
- will generally receive funding for up to \$150,000 (excl. GST) per annum.

Funding will begin late-August 2019. The funding agreement for successful projects can be found on the MPI website.

SLMACC RESEARCH THEMES AND PROJECT TOPICS 2019/20 (TABLE 1)

Research theme	Project topics
Extension	Project 1.1 Funded for 1 Year Proposals are sought for a deeper analysis on how climate change research can be more effective, communicated and taken up by rural professionals
Extension	Project 1.2 Funded for 1 Year Extension of Fire Risk under Climate Change
Adaptation	Project 2.1 Funded for 1 year Assessment of the Resource Management Act (RMA) and the policies and plans of City, District and Regional councils in allowing flexible land-use to enable adaptation to climate change
Adaptation	Project 2.2 Funded for up to 2 years How do individual farms thrive while responding to the collective drivers of climate adaptation, emissions mitigation, water impacts, biosecurity and biodiversity?
Adaptation	Project 2.3 Funded for 1 Year Key areas foresters will have to consider adapting their practices for managing forests
Adaptation	Project 2.4 Funded for 1 Year Review of FACE (Free Air Carbon Dioxide Enrichment) conclusions in relation to impacts of enhanced carbon dioxide on future farm practices
Adaptation	Project 2.5 Funded for 1 Year Support for identification and quantification of risk for the primary sectors to climate change to support the Climate Change Legislation on Adaptation and Risk
Adaptation	Project 2.6 Funded for 1 Year Enhanced model for drought identification by including soil moisture holding capacity and/or future drought prediction in the current drought model

THE APPLICATION PROCESS

Research proposals must be submitted to Funding@mpi.govt.nz.

Application Timelines

ACTIVITY	DATES
Round opens	10 May 2019
Round closes	14 June 2019
Panel Meeting	By 12 July 2019
Application Approvals	By 26 July 2019
Contracting to be finalised	Late-August 2019

Length of Proposals

The following information on the length of proposals is intended as initial guidance only, and applicants are advised to follow the application form guide when submitting a research proposal.

Proposals for research projects should be supported with:

- a project background in a maximum of three pages;
- a proposed research programme (objectives and methodologies), project plan in a maximum of ten pages;
- a description of how it fits with New Zealand and International collaborating countries strategic goals;
- A detailed section on the anticipated use and extension plans of the proposed research in a maximum of six pages; and
- A 1 page CV including details of the latest 5 publications relevant to the topic area.

Funding Terms and Conditions

All successful bidders will be invited to provide the required services against the terms and conditions and schedules of the funding agreement.

Successful applicants must agree to the provisions in the MPI funding agreement. The main points to consider are outlined as follows:

- accept the termination of any contracts in the event the Government reduces, stops or freezes funding to MPI;
- meet special conditions regarding reporting of research outputs to MPI, and use of research data and use of software and models by MPI;
- provide MPI (electronically and in hard-copy) with milestone reports on progress, reports on the outputs and data from the results of the research, and any software and models;
- agree that receipt of funding is dependent on the achievement of research milestones; and
- agree that the research results will be used by MPI in accordance with its intellectual property policy.

Funding Agreement Requirements for SLMACC Research

Please read the funding agreement carefully as it details the requirements for reporting on performance, payment for work carried out, Intellectual Property and Indemnities.

For those projects where there is an alignment with other funding, please provide reference and title if known.

CONTACTS AND ENQUIRIES

For all enquiries, please contact;

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2. PART B – SLMACC Research Themes and Project Topics 2019/20

INFORMATION ABOUT PROJECT TOPICS

The following provides details on each of the projects identified in Part A Table 1.

Research theme	Project topics
<p>Extension</p>	<p>Project 1.1</p> <p>Proposals are sought for a deeper analysis on how climate change research can be more effective, communicated and taken up by rural professionals.</p> <p>Funded for 1 year</p> <p>A resource for policy makers, regional councils, industry groups and businesses - the Survey of Rural Decision Makers undertaken by Landcare Research (2013, 2015, 2017) conveys how innovative practices are adopted by farmers, refer to: https://www.landcareresearch.co.nz/science/portfolios/enhancing-policy-effectiveness/srdm</p> <p>Proposals are sought for a deeper analysis on how research can be more effective and communicated to rural professionals. Questions would need to be targeted and can be done via person to person interviews, phone interviews or a series of small workshops. This would be valuable to MPI in the design of extension programmes. The assessment of specific practices for their suitability for extension in specific regions and subgroups/landowners based on how that group tends to learn, the practice itself and benefit for that regions ambitions and issues, and the resources in the area that can contribute to extension. Refer to: https://www.massey.ac.nz/massey/about-massey/news/article.cfm?mnarticle_uuid=4852C4C8-4545-41D8-8CC4-C2880D116203 https://www.tandfonline.com/doi/full/10.1080/1389224X.2017.1314861?scroll=top&needAccess=true</p> <p>This must build on what has already been done including for water quality and other focus areas and should be considered in light of the results/findings from the MBIE Endeavour 'Primary Innovation' project (2012-17).</p> <p>This should include other primary sectors, including forestry and horticulture, with a focus on creating and enabling environment for innovation and long-term land management. There are different and quite sophisticated mechanisms for extension that can be used, such as to name a few: The Task Force on Climate-Related Financial Disclosures (TCFD) and Climate Changes, Impacts and Implications (CCII) MBIE research programme promote Scenarios; Serious games have been used (e.g. Blackett (NIWA), Lawrence (Victoria), Verlade & Edwards (Scion / MWLR); Provision of adaptation decision making tools and methods (e.g. UKCIP, Real Options Analysis and adaptation pathways, Hawkesbay and Rangitāiki SLMACC's.) Further work would be to build on the typology of use to rural professionals.</p>

Research theme	Project topics
	<p>There are several science concepts that can improve decision making, uptake, and managing transitions some examples are: Innovation systems evaluates how effective the system is that supports innovations in mitigation and adaptation. Social learning provides a framework for disparate communities of interest to develop plans for action. Soft systems analysis and Systems thinking help unpack barriers to action, and develop mechanisms for decision making contexts. The science of how transitions are managed (to an environment of low carbon can provide effective ways of driving innovation in the primary sector businesses, i.e. identifying drivers that govern the current farm/forest/horticulture management approaches; identifying how innovation can be encouraged, developed (strategic niche management).</p> <p>This should be designing an extension programme, implementing it, analysing how effective it is, then adapting and repeating.</p>
<p>Extension</p>	<p>Project 1.2 Extension of Fire Risk under Climate Change Funded for 1 year</p> <p>Fire risk under climate change is something we know is an issue. Understanding fire risk for different species is a small part of this. Potential for extension work on how fire risk is managed where farms and forests interact, particularly as we weave more trees into the landscape. This should address fire landscapes made up of the mosaic of farms and small forest blocks and those in close proximity to communities such as within the rural-urban interface. We need to understand:</p> <ol style="list-style-type: none"> 1) The change in risk and uncertainty around future extreme fires; 2) Where the confluence of urban and rural landscapes exists. 3) What are climate adaptation options to manage risk e.g. more fire breaks, monitoring, etc. 4) Adaptation and mitigation by landowners to reduce fire risk. <p>Research with an extension focus on the rural-urban interface working with residents could reduce fire risk and increase preparedness to minimise impacts.</p> <ol style="list-style-type: none"> 5) A cultural element is needed in this research to work in partnership with Maori communities to address adaptation and mitigation and thereby decrease the threat to vulnerable communities and culturally significant sites.
<p>Adaptation</p>	<p>Project 2.1 Assessment of the Resource Management Act (RMA) and the policies and plans of City, District and Regional councils in allowing flexible land-use to enable adaptation to climate change Funded for 1 year</p> <p>This project would be a scoping exercise over 1 year.</p> <p>There are case examples from overseas (e.g. Australia) which may provide the basis for a review and synthesis of lessons and experiences to date. There is a proposed work package in Resilience to Nature's Challenges (RNC) 2 Rural, and Resilience in Practice Model looking at adverse events specifically (Resilience in Practice Model).</p>

Research theme	Project topics
	<p>“Conventional/Current adverse events and recovery policies for primary industries affected by hazard events, may have unintended long-term consequences, locking in undesirable or unsustainable pathways, and preserving the status quo. Gaining insight into the mechanisms through which post-event support is delivered, perceptions and drivers of recovery in rural settings, and opportunities to enable transformations towards more resilient responses is urgently required. This work package will develop a theoretical framework for exploring ‘lock in’, path dependencies and non-decisions for preparing for, responding to, and recovering adverse events for primary industries. Focusing on recent examples from drought and water management, we will apply the framework and develop three comparative case study examples, working closely with affected regional stakeholders, including Environment Southland (drought), Marlborough District Council (drought and earthquake) and Bay of Plenty (flood). <i>Outcome: to understand the extent to which regional and district plans limit flexibility of land use change to adapt to climate change and the development of a framework to limit lock in of decision making into unsustainable pathways by councils.</i></p>
<p>Adaptation</p>	<p>Project 2.2 How do individual farms thrive while responding to the collective drivers of climate adaptation, emissions mitigation, water impacts, biosecurity and biodiversity? Funded for up to 2 years</p> <p>This project would be for up to 2 years and a focused assessment of how a set of individual farms (that span a wide range of conditions in NZ) can make short and long term management decisions to deal with the above drivers, while maintaining or increasing profitability.</p> <p>This should build on previous work e.g. DairyNZ Case Studies (as per Dairy Action for Climate Change (DACC) also the work of Phil Journeaux for Maori incorporations. Any outputs should be a ‘suite of actions’ not a recipe that can be applied on a per farm basis. The project would look to fill in gaps that existing projects haven’t covered (e.g. Northland, West Coast ...).</p> <p>Resilience assessment has been used in previous SLMACC projects to consider the impacts and response to drought (Cradock-Henry and Mortimer, 2013) across low-input, high-input and organic dairy farms, and in dryland (sheep and beef) systems (Cradock-Henry and McKusker 2015). These studies relied on a small number of in-depth case studies with selected farms, in different regions, but were necessarily constrained by the available time and resource (ca. 12-months, \$100-125K). Nonetheless, the findings provide insight into the range of stressors that farmers are exposed to, strategies for mitigating risks, and the potential for adaptation. This project requires multiple researchers, with collective experience in risk and resilience assessment, farm systems, economics and decision-making.</p>
<p>Adaptation</p>	<p>Project 2.3 Key areas foresters will have to consider adapting their practices for managing forests Funded for 1 year</p>

Research theme	Project topics
	<p>Key areas foresters will have to consider adapting their practices for managing the effects of: high intensity rain, higher fire risk, and higher risk of losses relating to pests, diseases and weeds. These issues have been well identified and are already themes in Scion Research's 'Preparing for Climate Change' programme. Proposals will be sought for wider and/or deeper research into these areas.</p> <p>Scion notes the findings from the SLMACC review and the wider set of stakeholders including farmers/hapū planting for 1BT and environmental outcomes. (These are added as new themes below.) Adaptation: more research is required to provide businesses and communities (including Maori communities/hapū) with <i>quantifiable</i> and <i>catchment level</i> productivity and risk data that can be used to understanding impacts on operations and finances and environmental or social goals. We will make data available to end-users, including the specific requirements of iwi, for their own assessments and management of risk. As direct engagement with many stakeholders is not always practicable, a 'climate services' approach could be used to develop customised information products that include data, information and knowledge for specific sectors or regions. Model and generate scenarios of different climate futures, land use systems and how different systems interact to affect forest productivity, the wider environment and communities, including changes in extreme events. Develop understanding on climate change impacts on planted indigenous forests.</p>
Adaptation	<p>Project 2.4 Review of FACE (Free Air Carbon Dioxide Enrichment) conclusions in relation to impacts of enhanced carbon dioxide on future farm practices Funded for 1 year</p> <p>One of its key facets is the impact elevated atmospheric CO₂ has on grazed grassland making the NZ FACE site the only one of its kind in the world. It has been operating for 20 years now. The rapid rate of change in farming practices, such as inclusion of plantain and other forages (herbs, grasses, and brassicas), and changes in grazing management practices, may modify the value of this information. Undertaking this work should consider how applicable outcomes/results will be for future pastoral systems.</p>
Adaptation	<p>Project 2.5 Support for identification and quantification of risk for the primary sectors to climate change to support the Climate Change Legislation on Adaptation and Risk Funded for 1 year</p> <p>Compilation of information to support the development of an Adaptation Risk Assessment and Plan under the Climate Change Legislation for the primary sectors.</p> <p>This needs to focus on managing and quantifying risk in biological systems (i.e. Sustainable Land Management not infrastructure). Biological systems are more complex due to the interactions between climate and plant and animal physiology and the potential for multiplying risks, e.g., as climate increases occurrence and impact of pest and diseases, which results in</p>

Research theme	Project topics
	<p>more tree death which increases fire fuel loading; or how phenology changes affect key ecosystem functions such a pollination, flowering, fruit set.</p> <p>Research is required on how risk - resilience, vulnerability- to climate change affects cultural values, communities and iwi/hapū, and how adaptation processes account for cultural and societal values. This needs to tie in with the framework that is used to assess risk and the Plan framework identified as needed for the legislation.</p>
Adaptation	<p>Project 2.6 Enhanced model for drought identification by including soil moisture holding capacity and/or future drought prediction in the current drought model Funded for 1 year</p> <p>NIWA were funded to kick-start the drought index work. This work will also enhance the forecasting module of the drought index. An area to be addressed in the NIWA model is the use of water holding capacity of different soils which should be added and used as the starting point.</p>

3. PART C – Important Points to Consider

RESEARCH TYPE AND COLLABORATIONS

Applicants should consider the following factors when preparing proposals:

- we are seeking to invest in a mix of research that includes, applied research and extension development;
- where appropriate, policy research may be part of a project, and the policy implications of all research should be identified; and
- multi-disciplinary, collaborative and cross-organisational approaches should be considered where these would deliver the best outcomes.

DEMONSTRATION OF END-USER ENGAGEMENT AND COLLABORATION

Research proposals should demonstrate engagement and collaboration with other relevant national and international research capability to ensure alignment of research effort.

Proposals should include a prioritised programme that shows how the expectations of end-users and collaborating research partners will be met within the constraints of the project timeframe.

Proposals for research funding should demonstrate close working relationships with potential end-users, to enable the research to lead to:

- improved understanding of climate change adaptation products and practices and business opportunities among policy and decision makers and Māori across central and local government; and
- provide timely information necessary for central and local government, policy and decision makers and Māori to respond to adaptation and business opportunities.

Applicants may propose to build capacity by bringing in and/or training new researchers and enhancing the skills of current researchers, including Māori researchers.

Where appropriate, proposals should consider cross-sectoral responses, both within and between, the sustainable land management sectors (e.g. horticulture, arable, dairy, sheep, beef) and other sectors (e.g. industrial, transport, energy, consumer). Proposals should also consider providing for ongoing information and database requirements, data transfer and informatics for climate change and sustainable land management.

CO-FUNDING

MPI encourage applicants to seek strong partnerships between research organisations, public agencies, sectors and industry to integrate the policy, business, and scientific skills necessary to increase the relevance of agricultural and forestry sector climate change research and the likelihood of its implementation.

The strength of these relationships and the relevance of the research are increased by co-funding either as direct cash or in-kind support. MPI consider co-funding as a type of collaboration between industry and researchers that will lead to successful uptake of the research results and achieve the intended outcome of the proposal.

Applicants for SLMACC funding are encouraged to secure industry co-funding, but industry is not a requirement for achieving a successful application.

MĀORI RESEARCH AND INNOVATION

Overview

Climate variability and change presents risks and opportunities to Māori economic assets. There are approximately 1.5 million hectares of land in Māori ownership.

MPI, where appropriate, is seeking to invest in research that unlocks the innovation potential of Māori and their resources to assist New Zealand to create a better outcome from sustainable land management and climate change. This objective relates to one or more of the following areas:

- **Indigenous innovation:** Contributing to economic growth through distinctive research and development on sustainable land management and climate change;
- **Taiao:** Reducing the threats to sustainable land management from climate change through iwi and hapu relationships with land and sea; and
- **Mātauranga:** Knowledge with research science and technology related to sustainable land management and climate change.

Where appropriate, research proposals should show how the proposed research may deliver in at least one of the three areas outlined above.

Research and Engagement with Māori

Māori have distinct values, and resources of cultural and economic importance, that are potentially impacted by climate change policies, climate variability and change.

This RfP encourages the integration of these values into future scenario planning so they can be explicitly considered in local, regional and national planning.

Explicit pathways to implementation are encouraged with national agencies and Māori authorities, in a way that allows the impact on cultural and economic values of importance to Māori to be explored and overcome.

Consideration could also be given as to how Māori groups¹ that engage in resource management and primary sector activities, will use the research findings. Mechanisms to ensure relevant information is easily accessible and extends to the range of Māori and other end-users over the course of the programme should be evident.

MPI is seeking research that has a national focus rather than site or group-specific research. Features of the research that might specifically affect Māori should be identified. The proposal should clearly demonstrate how Māori partners will contribute in a meaningful way and that contributes positively to the proposed research.

MPI encourages proposals that develop researchers who can address distinct issues either through student placements or the inclusion of culturally-capable researchers into the applied end of the research programme.

In summary, where appropriate, proposals may demonstrate the following:

- Partnerships with Māori that positively contributes to the research programme and outcomes;
- Active inclusion of Māori as knowledge contributors to the research to develop Māori research capability on sustainable land management and climate change;

¹ This includes iwi authority-resource management staff, National FOMA, Poutama Trust and Māori Trustee.

- Clear processes to integrate research into the environmental and economic management processes of Māori groups and other end-users; and
- How the proposed research could make a significant contribution to developing the environmental/economic-management capability of Māori groups and other end-users from a sustainable land management and climate change perspective.

ALIGNMENT WITH OTHER CLIMATE CHANGE RESEARCH

The proposed research should align with and not duplicate projects in other funding mechanisms involved in climate change research including:

- the Sustainable Food and Fibre Futures (SFF Futures); <https://www.mpi.govt.nz/funding-and-programmes/sustainable-food-and-fibre-futures/>
- New Zealand Agricultural Greenhouse Gas Research Centre Strategy and Science plan;
- Pastoral Greenhouse Gas Research Consortium research programme;
- other agriculture and forestry sector funding e.g. Pastoral 21;
- CRI core funding projects;
- public good funding available through MBIE for science and innovation;
- other appropriations provided to MPI, for example, national GHG inventory research;
- the Government's current and ongoing climate adaptation funding through other Ministries;
- Māori innovation (to achieve sustainable land management with climate change on Māori land recognising particular issues associated with multiple-owned land under Te Ture Whenua Māori Act 1993); and
- regional and district council research and science programmes.

Please identify the specific project that the proposal is linked to.

4. PART D – Assessment Criteria

Applications should demonstrate how each of the criteria in the following table will be addressed, and display the attributes expected of a good research proposal (also summarised in the following table). The SLMACC research programme goals are outlined in Part E.

Benefit to New Zealand
<p>1. Outcome benefits/costs (economic, social or environmental contribution SLMACC programme goals).</p> <p>Key question: Assuming this project is successful, what is the potential it will make to the achievement of the goals of the SLMACC research programme?</p> <p>Attributes to be covered:</p> <ul style="list-style-type: none"> a) Assessment of the opportunity or need and potential impacts from the proposed research (e.g. improved economic returns, avoided costs – economic, social, and environmental). b) The potential contribution to SLMACC research programme goals, assuming successful adoption and implementation (including potential spill over and co- benefits). c) Does the research proposal represent value for money?
<p>2. Research, science and technology (RS&T) benefits to make New Zealand world leading in adaptation research (science excellence).</p> <p>Key question: Will the research be of high science quality and build or retain capabilities of potential future climate change benefit for New Zealand?</p> <p>Attributes to be covered:</p> <ul style="list-style-type: none"> a) Advancement of knowledge frontiers. The magnitude of the extension of knowledge frontiers and generation of significant new knowledge of climate change, potentially contributing to the plan of action. b) Excellence of RS&T fit-for-purpose. Demonstration of soundness of research method (including research questions and/or hypotheses) and the rationale for the approach and methodology, identification of the strengths/weaknesses of the research approach. c) The potential for this distinctive RS&T capability to contribute to the plan of action in future. d) How the maintenance and development of an existing RS&T capability makes or may make an important contribution to the plan of action, taking account of the difficulty of replicating it. (RS&T capability includes development of individual and team research abilities and associated support and infrastructure.)

Risk management or success factors

3. Implementation pathway (to achieve SLMACC research programme goals).

Key question: What is the likelihood the team will successfully have the research implemented?

Attributes to be covered:

- a) **Relevant team track record** in delivering contributions to climate change goals and working with research users in general science and climate change science.
- b) **Addresses barriers to adoption**
 - Freedom to operate including, ethical issues, intellectual property and regulatory hurdles.
 - Takes account of existing or new competitors, substitutes and alternative ways of achieving goals.
- c) **Pathway to research use**
 - Demonstrated plan (including mechanisms and critical steps) to achieve uptake, capturing benefits for the SLMACC research programme.

4. Ability to deliver research and extension of the outputs.

Key question: What is the likelihood the team will achieve their proposed research outputs and deliver an effective extension plan?

Attributes to be covered:

- a) **RS&T track record of teams**
 - Fit-for-purpose science track record including past climate change contributions.
 - Collaborations where necessary to bring together the best team to deliver the proposed research for the SLMACC research programme.
 - Track record of delivering on research (including, but not limited to, previous contracts) around climate change and extension.
 - Track record/experience of implementing uptake of new technologies through good extension methods.
- b) **Project management and support**
 - Team leadership, roles and coordination.
 - Organisational and infrastructural support.
- c) **Project and extension plans**
 - Clearly defined, well-sequenced research aims and critical steps.

WEIGHTING FOR EACH CRITERION

There will be no different weightings placed on the projects.

5. PART E – SLMACC Research Programme Goals

- The land-based sectors are economical, environmentally and socially sustainable and continue to improve productivity and the efficient use of natural resources.
- The sectors understand and are able to manage the economic implications arising from climate change.
- The sectors are positioned to take advantage of the economic opportunities arising from climate change and an increased demand for lower carbon products and services (e.g. carbon farming, longer growing seasons, life cycle analysis, etc.).
- The sectors and their communities have the necessary information and technology available to successfully prepare for and adapt to a changing climate.
- New Zealand is a recognised world leader in the development of practical technologies and management practices for farmers to measure and reduce agriculture emissions.
- New Zealand is well placed to negotiate appropriate outcomes for the land-based sectors for the post-2012 commitment period.
- The sectors are internationally competitive, and land-use flexibility is maintained, taking into account the environmental costs of land-use decisions.
- Forestry is fully integrated into land-use decisions to help deliver sustainable land management outcomes.
- Forests and forest products are widely used in adapting to and reducing the impacts of climate change.