16 March 2015

Ms Anthea Harris
Chief Executive Officer
Climate Change Authority
GPO Box 1944
Melbourne VIC 3001

By email: submissions@climatechangeauthority.gov.au

Dear Ms. Harris

Australia's Greenhouse Gas Emissions Reduction Goals - Special Review

The National Farmers' Federation (NFF) welcomes the opportunity to respond to the Climate Change Authority's (the Authority) Special Review into Australia's Greenhouse Gas Emissions Reduction Goals.

The NFF is the peak national body representing farmers and the broader agriculture sector. The NFF's membership comprises all of Australia's major agricultural commodities. Operating under a federated structure, individual farmers join their respective state farm organisation and/or national commodity council. These organisations form the NFF.

In undertaking this special review, the NFF would urge the Authority to consider the following climate change policy principles:

- *Australia's emissions reduction commitments must not undermine our trade exposed economy.* The design of domestic policy frameworks to achieve our emissions reduction commitments should be cognisant of the economic impact of policy instruments on trade exposed industries. For example, although not directly liable, a price on carbon through mechanisms such as the Carbon Tax imposed costs on Australian farm businesses that are not borne by our major international competitors;

- *Australia's emissions reduction commitments should be considered from a whole of economy perspective, and not be banded by sector*;

- *Climate policy should recognise the difference between the variability associated with the natural carbon cycle of agricultural systems*[1] *and emissions that result from fossil fuel use and other industrial activities.* This variability adds complexity to both measuring emissions and our ability to cost-effectively verify emissions reductions.

[1] The Climate Change Authority noted in its recent review of the Carbon Farming Initiative that in the agriculture sector there are challenges associated with measuring and verifying emissions reductions in natural systems that have high levels of local variability.

Agriculture and land-use sectors

Emissions intensity

A key challenge for the agriculture sector is to reconcile the competing objectives of food and fibre security for a growing global population while also reducing the emissions from the sector. An "absolute" approach to considering agriculture emissions reduction (i.e. net emissions from the sector are reduced) is at odds with this need to expand total production to meet growing demand. Adopting an "emissions intensity" approach for agriculture enables the emissions reduction policy framework to facilitate both goals. This is essentially an efficiency approach – with a focus on reducing the "emissions footprint" of each unit of production.

The NFF supports an emissions intensity approach for the agricultural sector. This metric will help protect the sector's competitiveness by ensuring that food and fibre will be produced more efficiently, rather than placing a net cap on emissions.

Research, development and extension

Continued and sustained investment in research and development (R&D) is required to improve the carbon efficiency of our farming systems and the ability of the agriculture sector to contribute to reducing national and international emissions. R&D is also vital in underpinning the resilience and adaptation of Australian agriculture to the future effects of climate change.

A key challenge for much of the agriculture sector is that many emissions reduction technologies are still in the embryonic phase of research and development and are not yet "methodology ready". To fully unlock the potential for abatement in agriculture, further investment in R&D is required, particularly to fast-track the development of these methodologies and to ensure that agriculture is well placed to take advantage of opportunities in the future.

Climate R&D will continue to play an important role in ensuring that mitigation options are cost effective for Australian farmers. As the Authority noted in its 2014 review of the Carbon Farming Initiative, a lack of participation by particular activities and sectors within in agriculture may reflect the fact that abatement options in those areas are not cost-effective. In agriculture, the best approach to reducing emissions across the sector is to develop cost-effective emissions reduction activities that also improve productivity or efficiency on farm. Mitigation options that improve productivity and profitability, rather than the additional incentive that may be provided by Government initiatives, are more likely to be adopted by farmers as it will make business sense to do so.

Research that has been largely funded by the Australian Government through the Climate Change Research Program (CCRP) and Filling the Research Gap Program (FRGP) have already been of benefit to Australia's emissions reduction efforts. For example, research into reducing emissions from livestock has resulted in the development of local factors for the National Inventory which are less than the IPCC default factors.

The initial research funded by CCRP and FRGP has also identified some significant opportunities for emissions reduction in the agriculture sector. These include research efforts such as those related to:

- reducing methane emissions in dairy and beef cattle through genetic improvements, rumen technologies and feeding
- reducing nitrous oxide emissions in cropping and pasture systems through fertiliser application efficiency, nitrification inhibitors in fertilisers and irrigation management
- reducing emissions from intensive industries such as pork and poultry by better managing manure waste

With further investment in research, development and extension these emerging opportunities can be translated into direct actions to enable farmers to contribute to Australia's emissions reduction task.

There are also significant opportunities for improving practice on farm within our current knowledge base. For example, in the dairy industry improvements can be made in nitrogen management, fertility, heat control, and energy use. More broadly, extension efforts to encourage better management of soil carbon can result in both productivity benefits as well as sequestration benefits. In the NFF's view, focused investment in extension to encourage practice change that make commercial sense to farm businesses has the potential to contribute to our emissions reduction task.

It is important to recognise the long lead time associated with investment in agricultural research and development. In some instances project results can take up to a decade to be attained. It is important that such R&D efforts are sustained over time. Investment to date through CCRP and FRGP has also built the capability of Australian research teams, and sustained investment is required to ensure that this capability is not eroded.

In the NFF's view, there is a clear opportunity for the Australian Government to take direct action by further investing in agriculture sector R&D. By supporting the Global Alliance for Climate Smart Agriculture, such a direct action commitment can form part of Australia's commitment to Paris 2015.

The recognition of the contributions of the agriculture sector to the emissions reduction effort in the National Inventory

There is no doubt that native vegetation management has significantly enhanced the ability of Australia to meet its international carbon reduction targets to date. According to the Authority, reductions in land clearing imposed on land managers by State Government regulation have been the biggest sectoral contributor to emissions reductions in Australia since 1990, with net emissions declining by 85 per cent from 1990 to 2012[2]. Agriculture is decoupled from the land-use sector in the national inventory. The NFF would urge the Authority to remain mindful of agriculture's significant contribution to the reduction in

[2] Climate Change Authority (2014) Reducing Australia's Greenhouse Gas Emissions— Targets and Progress Review Final Report Pg 244

emissions attributed to the land-use sector. These contributions have been made a significant cost to farmers and the farm sector more broadly.

Intensive agricultural systems are also contributing to the task of reducing Australia's carbon emissions. For example, emissions intensity reductions of 87% have been achieved in large commercial piggeries by covering an anaerobic treatment lagoon, to minimise methane emissions. The captured methane is used to generate electricity and heating to replace electricity bought off the grid[3].

Over time, in the NFF's view, it is important to continue to invest in the information base required to ensure that the National Inventory best reflects land use and is able to incorporate practice changes in a timely manner.

The impact of an Emissions Trading Scheme on the agriculture sector

The NFF recognises the bipartisan commitment to limit man-made greenhouse gas emissions; while the major parties have differing views as to the best policy mechanism (direct action versus a market-based mechanism) to achieve these reductions.

When considering the appropriateness of an emissions trading scheme (ETS) any review must consider the potential impacts of such a scheme on the impact of trade-exposed sectors such as agriculture.

The NFF does not support the inclusion of agriculture in an ETS at the present time. It has been widely recognised that it is currently impractical for agriculture to be covered by an ETS. This is due to problems with measuring and verifying emissions and sequestration through Australia's 155,000 farm entities, limited commercially-viable abatement options for the sector and the potential to significantly reduce agriculture's international competitiveness relative to that of developing nations that will not have emission constraints for many years.

Farmers, as price-takers in the marketplace, are vulnerable to increasing costs that may result from the implementation of an ETS. Even if agriculture is exclude from an ETS, the impacts of a scheme will still be felt by the sector.

Modelling undertaken by agriculture industries on the impacts of the carbon tax showed for example that:

- The average sugarcane grower would face hikes of around $20,000 or 4.7% of running costs over a five year period; and
- Typical cotton farm businesses would incur total annual cost increases of 2.1 percent, producing a reduction in farm net income of 5.5 percent at year five (assuming a $20/tonne price of carbon)[4]

The dairy industry has recently conducted a post carbon tax review of energy costs. This analysis of case study dairy farms on non-contestable electricity contracts showed that a

[3] Australian Pork Limited (2013) PigGas Case Study 1 1,070 sow farrow to finish conventional piggery, South West Slopes NSW. Available at; http://australianpork.com.au/wp-content/uploads/2013/10/PigGas-Case-Study-1-1070-Sow-Conventional.pdf

[4] Davison, S, Keogh, M (2011), The Impact of a Carbon Price on Australian Farm Businesses: Cotton Farming, Research Report, Australian Farm Institute, Surry Hills, Australia.

carbon tax of $23/tonne CO_2 translated to a daily cost of $0.80- $6.40 or 1.5-13% of total bills This range was between $7-20 per day or 8 to 15% of total bills for farmers on contestable electricity contracts[5].

Using Australian Bureau of Agriculture and Resource Economics data, approximately one-third of total broad acre farming input costs are energy dependent. This includes direct costs such as fuel and electricity, as well as other energy-dependent farm costs such as freight, fertilizers and crop contracting. This figure increases to a substantial 45% of input costs for cropping operations. All of these input costs will increase markedly should the electricity and fuel sectors be covered by an ETS.

In conducting its analysis, the NFF encourages the Climate Change Authority to explore in detail the potential implications of an ETS on the agriculture sector using scenarios that include or exclude agriculture as a covered sector. The NFF encourages the Authority to examine potential impacts on Australia's food supply chain more broadly, as impacts on the competitiveness of our food processing and manufacturing sectors can have significant flow on effects for farmers.

I have also attached for your information NFF's submission to the 2014 Caps & Targets Review. Should you wish to discuss NFF's submissions further, please do not hesitate to contact Ms Jack Knowles, Manager Natural Resources Policy by telephoning 02 6269 5666 or by email at jknowles@nff.org.au.

Yours sincerely,

SIMON TALBOT

CHIEF EXECUTIVE OFFICER

[5] Dairy Australia (2014). http://www.dairyaustralia.com.au/~/media/Documents/Environment%20and%20Resources/22072014-Australian%20Dairy%20Shed%20Energy%20Costs-Fact%20Sheet-July14.pdf