



National Farmers' Federation

Submission to the Climate Change Authority's Special Review: Second Draft Report

February 2016

NFF Member Organisations



Australian Chicken Growers' Council Ltd



CANEGROWERS



COTTON AUSTRALIA



Goat Industry Council of Australia inc.



NEW SOUTH WALES IRRIGATORS' COUNCIL



RICEGROWERS' ASSOCIATION OF AUSTRALIA INC.





The National Farmers' Federation (NFF) was established in 1979 and is the peak national body representing farmers, and more broadly, agriculture across Australia. 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.

Following a restructure of the organisation in 2009, a broader cross section of the agricultural sector has been enabled to become members of the NFF, including the breadth and the length of the supply chain.

While our members address state-based 'grass roots' or commodity specific issues, the NFF's focus is representing the interests of agriculture and progressing our national and international priorities.

The NFF has for 36 years consistently engaged in policy interaction with government regarding a range of issues of importance to the sector including trade, education, environment, innovation to name a few.

The NFF is committed to advancing Australian agriculture by developing and advocating for policies that support the profitability and productivity of Australian farmers.

Statistics on Australian Agriculture

Australian agriculture makes an important contribution to Australia's social, economic and environmental sustainability.

Social >

There are approximately 115,000 farm businesses in Australia, 99 percent of which are family owned and operated.

Each Australian farmer produces enough food each year to feed 600 people, 150 at home and 450 overseas. Australian farms produce around 93 percent of the total volume of food consumed in Australia.

Economic >

The agricultural sector, at farm-gate, contributes 2.4 percent to Australia's total Gross Domestic Product (GDP). The gross value of Australian farm production in 2014-15 was \$56 billion – a 6 percent increase from the previous financial year.

Yet this is only part of the picture. When the vital value-adding processes that food and fibre go through once they leave the farm are added in, along with the value of all economic activities supporting farm production through farm inputs, agriculture's contribution to GDP averages out at around 12 percent (over \$155 billion).

Environmental >

Australian farmers are environmental stewards, owning, managing and caring for 52 percent of Australia's land mass.

Farmers are at the frontline of delivering environmental outcomes on behalf of the Australian community, with 94 percent of Australian farmers actively undertaking natural resource management.

The NFF was a founding partner of the Landcare movement, which in 2014, celebrated its 25th anniversary.

Contents

1. Introduction.....	1
2. Agriculture and land-use sectors.....	2
3. Principles for assessing policies.....	2
3.1 Introduction	2
3.2 Emissions intensity.....	3
4. Policy options.....	3
4.1 Overview	3
4.2 Emissions Trading	4
4.3 A carbon tax	4
4.4. Voluntary carbon markets	5
4.5. Direct action – innovation to drive practice change	6
4.6. Direct action by improving energy efficiency on farms	7

1. Introduction

The National Farmers' Federation (NFF) welcomes the opportunity to provide a submission in response to the Climate Change Authority's (CCA) *second draft report of its Special Review on Australia's climate goals and policies*.

The NFF is the peak national body representing farmers and the agriculture sector across Australia. The NFF's membership comprises all 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.

The NFF takes this opportunity to reiterate our views on the important principles that should form the basis of Australia's climate policies:

- **Australia's emissions reduction commitments must not undermine our trade exposed economy.** Our international commitment, and the policies that are put in place to achieve this, should ensure that our economy is not undermined and that impacts on trade exposed industries such as agriculture are minimised.
- **Australia's emissions reduction commitments should be considered from a whole of economy perspective, and not be banded by sector.** NFF supports the development of a whole of economy approach to setting targets and the policies to achieve these targets.
- **Australia's emissions reduction commitment should recognise the difference between the variability associated with the natural carbon cycle of agricultural systems 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.
- **Australia's emissions reduction commitments must be supported by Government policies and actions that will support the continued growth of our sector while reducing our emissions intensity over time.**

2. Agriculture and land-use sectors

Agriculture emissions accounted for 15 per cent of the National Greenhouse Gas Inventory in 2013–14¹. Emissions from agriculture include methane and nitrous oxide from livestock and crop production, and from the burning of savannas. Beef cattle accounted for 45 per cent of agriculture emissions in 2013–14; dairy cattle and burning of savannas accounted for 11 per cent each; and sheep accounted for 16 per cent². With the exception of carbon dioxide from liming and the application of urea, emissions of carbon dioxide from agriculture are not counted in the projection because they are considered part of the natural carbon cycle.

According to the 2014–15 Australian emissions projections, agricultural emissions have decreased by 10 per cent since 1999–2000, to be 82 Mt CO₂e in 2013–14. Within this sector wide decrease, the Australian beef industry has seen a 14% reduction in Green House Gas (GHG) emissions intensity since 1981. Intensive agricultural systems are also contributing strongly to this reduction of agricultural emissions. For example, methane capture technologies have seen emissions intensity reductions of 84% being achieved in many large commercial piggeries.

In addition to the contributions of the agricultural sector, preliminary estimates of emissions from land use, land use change and forestry (LULUCF) were 14 Mt CO₂e in 2013–14, a 77 per cent decrease from 1999–2000 levels³. NFF welcomes the CCA’s recognition that 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 2012⁴. These contributions have been made at a significant cost to farmers and the farm sector more broadly. It is important that in developing future policy options that principles of fairness and equity be adopted.

3. Principles for assessing policies

3.1 Introduction

NFF broadly supports the principles outlined in the CCA’s paper.

The principle of environmental effectiveness adopted by the CCA is narrow. In essence, the draft options paper focus on the effectiveness of the policy of achieving emissions reduction, and not the broader principle of the range of environmental benefits that may be achieved as a result of emissions reduction activities. In the agriculture sector, many emissions projects will have multiple environmental benefits – such as biodiversity and water quality. The policy framework needs to be able to take these additional benefits into account.

When assessing the principle of equity, NFF seeks explicit consideration of the impact of the suite of policies on the farm sector and farming families. Farms, like other small businesses have a very unique nexus between the impact of a policy of the business and the impact on the income of a family.

¹ Department of the Environment (2015), Australia’s Emissions Projections, Department of the Environment, Canberra, ACT.

² Department of the Environment (2015), Australia’s Emissions Projections, Department of the Environment, Canberra, ACT.

³ Department of the Environment (2015), Australia’s Emissions Projections, Department of the Environment, Canberra, ACT.

⁴ Climate Change Authority (2014), Reducing Australia’s Greenhouse Gas Emissions – Targets and Progress Review Final Report, Melbourne, Victoria.

Agriculture has borne the cost of Australia's past policies to achieve our international emissions reduction targets. State regulations on land clearing have been the biggest sectoral contributor to emissions reductions in Australia since 1990.

Is it fair that much of the cost of Australia's progress to date has been carried by those farmers who have been prevented from improving the profitability of their farm businesses?

Farmers were also squeezed under the Carbon Tax. Carbon tax flow-on costs hit Australian farmers every time they paid for essential electricity, fertiliser, chemical and fuel supplies. While not a covered sector, the costs of the tax was passed through to farmers from covered entities.

3.2 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 reducing emissions from the sector. The Paris Agreement highlighted the challenge of feeding a growing global population. Policy mechanisms that adopt an absolute approach to considering agriculture emissions reduction (i.e. net emissions from the sector) are at odds with the need to increase total production to meet growing demand.

There are also challenges in reconciling potentially competing domestic policy objectives. For example, harnessing the opportunities for a growing agriculture sector provided by recent trade agreements with Japan, China and Korea and the Trans-Pacific Partnership would be at odds with putting an absolute cap on emissions from the agriculture sector. This would essentially cap production, particularly in the short to medium term.

Adopting an emissions intensity approach for agriculture enables the emissions reduction policy framework to facilitate competing goals. This is an efficiency approach – with a focus on reducing the “emissions footprint” of each unit of production.

The NFF supports an emissions intensity approach for considering 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 an absolute cap on emissions.

4. Policy options

4.1 Overview

In the NFF's view, the Government must maintain its policy focus on voluntary climate mitigation policy initiatives for the agriculture sector. Policies that increase the cost of production – either by directly imposing costs or resulting in costs passed down through the supply chain – put us at a competitive disadvantage to our major global competitors.

NFF does not support the imposition of regulations that impinge on the property rights of individuals to achieve emissions reductions. Regulations that unreasonably restrict land use change are not supported by NFF. Vegetation management regulation has underpinned the ability of Australia's to achieve its international obligations under the Kyoto Protocol. The costs of these regulations has almost all been borne by the agriculture sector – with no recognition of the associated loss of property rights.

The reality is that for most Australian farmers, cost-effective methods have not yet been approved. NFF does not support mandatory policies (such as a tax or trading scheme) that cover farming. Such policies would be asking farmers to demonstrate that they are reducing emissions where there is no avenue for

them to do so. Such policies would just impose costs on the agriculture sector, reducing our international competitiveness.

The NFF welcomes the CCA's recognition that mandatory pricing policies are not likely to be suited to agriculture as the cost of measuring and reporting on emissions are likely to be high. It also notes that for small emitters, and in sectors that have few opportunities for emissions reductions in the short term, it may be best to concentrate on voluntary measures such as offset schemes, and on research and development of low-emissions technologies.

NFF's view is that continued and sustained investment in research and development (R&D) is required to improve the carbon efficiency of our farming systems and enable the agriculture sector to contribute to reducing national and international emissions.

The opportunities to contribute to achieving emissions reduction that can be provided by investment in R&D include:

- Enabling the participation of farmers in carbon markets through the development of cost effective methods to accumulate and sell Australian Carbon Credit Units (ACCU) under the ERF and other market mechanisms.
- Improving the emissions efficiency of the sector. In this regard, developments that concurrently reduce emissions and improve productivity will be more readily adopted by farmers as it makes business sense to do so, and as a result will drive overall sector performance in the national inventory.

In addition, there are opportunities to achieve emissions reductions by improving energy efficiency on Australian farms.

4.2 Emissions Trading

The NFF does not support an economy wide emissions trading scheme. In NFF's view, it is currently impractical for agriculture to be covered by an Emissions Trading Scheme (ETS). This is due to problems with measuring and verifying emissions and sequestration through Australia's 115,000 farm businesses, limited commercially-viable abatement options for the sector and the potential to significantly reduce agriculture's international competitiveness relative to that of other nations who are not constrained by emissions reduction policies. If implemented, an Emissions Trading Scheme would force Australian farmers into a position whereby the only way that they can meet their liabilities would be by reducing production.

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 excluded from an ETS, the impacts of a scheme will still be felt by the sector.

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. The NFF does not support the inclusion of agriculture in an ETS.

4.3 A carbon tax

The NFF supported the Federal Government's decision to repeal the carbon tax. Whilst the agricultural sector itself was excluded from directly paying the tax, costs imposed on other businesses were passed on to agriculture and impacted the bottom line of farm businesses. These carbon tax flow-on costs

impacted Australian farmers every time they paid for essential electricity, fertiliser, chemical and fuel supplies. These flow-on effects significantly dampened the sector's efforts to increase profitability.

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)⁵

Additionally, 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 carbon tax of \$23/tonne CO₂ 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 contracts⁶.

The NFF does not support the reintroduction of a carbon tax or similar policy instrument as a means to achieving a post-2020 emissions reduction target.

4.4 Voluntary carbon markets

It is critical that Government continues efforts to enable the agriculture sector to actively participate in voluntary carbon markets, such as the Emissions Reduction Fund which forms the centrepiece of the current Government's direct action policy. This requires a commitment to continue to develop cost-effective methods in partnership with the industry to enable the sector to be competitive over the life of the Fund.

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 "method ready". To fully unlock the potential for abatement in agriculture, further investment in R&D is required.

Climate R&D will continue to play an important role in ensuring that mitigation options are cost effective for Australian farmers. As the CCA noted in its 2014 review of the Carbon Farming Initiative, a lack of participation by particular activities and industries within agriculture may reflect the fact that abatement options in those areas are not cost-effective⁷.

NFF's view is that there are opportunities for greater sequestration in the agriculture sector. In many parts of the Australian landscape, capturing carbon in our soils has real potential. More work needs to be done to capture these opportunities, by providing a low cost, low risk pathway to encourage farmer participation.

⁵ 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.

⁶ Dairy Australia (2014).

<http://www.dairyaustralia.com.au/~media/Documents/Environment%20and%20Resources/22072014-Australian%20Dairy%20Shed%20Energy%20Costs-Fact%20Sheet-July14.pdf>

⁷ Climate Change Authority (2014), Carbon Farming Initiative Review, Climate Change Authority, Melbourne, Victoria.

4.5 Direct action – innovation to drive practice change

With the support of the Australian Government, the agricultural sector has pursued research and development of technologies and changes in practice to reduce the emissions intensity of agricultural production and sequester carbon in the landscape.

In agriculture, the NFF's view is that the best approach to reducing emissions across the sector is to develop cost-effective emissions reduction technologies and practices that also improve productivity or efficiency on farm. Mitigation options that improve productivity and profitability, rather than those that require an additional incentive from the market or from Government initiatives, are more likely to be adopted by farmers as it will make business sense to do so. Such a focus also overcomes the administrative barriers to participating in complex emissions reduction projects.

The changing emissions intensity of the agriculture sector over the past few decades highlights the potential for R&D to drive reductions in emissions intensity over time. For example:

- in the dairy industry, the on-farm application of research related to cow nutrition, rumen microbiology and genetics has led to substantial increases in milk production from individual cows and improved feed conversion. This has resulted in the average methane intensity from Australian dairy cows reducing from 9.8 t CO₂e per tonne of milk solids in 1980 to 6.0 t CO₂e/t MS in 2010⁸.
- between 1981 and 2010, the beef industry has decreased greenhouse gas intensity by 14%, from 15.3 to 13.1 kg CO₂-e per kilogram of live weight⁹. This has largely been driven by changes in herd management to improve productivity such as higher weaning rates, higher growth rates, heavier carcass weights, lower mortality rates and improved feed conversion.

When considering these improvements, it is important to keep in mind that the focus of R&D over this time was largely on improved productivity by increasing feed efficiency or productivity, and not an active focus on reducing emissions intensity.

A number of promising research avenues have been identified that over time will drive down the emissions intensity of agricultural production. Opportunities include 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; and
- reducing emissions from intensive industries such as pork and poultry by better managing manure waste.

Some are opportunities that our agricultural industries, through our R&D levies, will pursue on their own due to the productivity benefits they will provide. For others, public investment will enable research that would otherwise not proceed with industry investment alone, or accelerate the rate at which the research can be undertaken.

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,

⁸ Moate et al (2014) *Mitigation of enteric methane emissions from the Australian dairy industry*, Proceedings of the 5th Australasian Dairy Science Symposium 2014

<http://www.adssymposium.com.au/inewsfiles/2014proceedings/19MoateADSS2014.pdf>

⁹ Wiedmann et al (2015) *Resource use and greenhouse gas intensity of Australian beef production: 1981–2010* Agricultural Systems Volume 133, February 2015, Pages 109–11

<http://www.sciencedirect.com/science/article/pii/S0308521X14001565>

heat control, and energy use, and the industry is encouraging the adoption of these practices. Similarly the cotton industry, with the support of Australian Government, has embarked on a process of incorporating sequestration and mitigation options into the industry's Best Management Practice program and industry extension activities.

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 greatly facilitate agriculture's contribution to the national emissions reduction task.

It is important that the policy framework is able to recognise the contribution that agriculture makes to emissions reduction. A policy mechanism is required to ensure that the farm sector is recognised for industry-wide practice change that reduces the emissions intensity of the industry.

It is important to recognise that for some research, there are long lead times. Technologies that will result in stepped change in our emissions profile are likely to emerge over the next decade. It is important that such R&D efforts are sustained over time. In partnership with Government, we have built significant capability in the Australian research community, who are now recognised internationally for their expertise. Sustained, long term investments in partnership with research and development corporations can ensure that this capability is not eroded or lost to our international competitors.

4.6 Direct action by improving energy efficiency on farms

Projects in a number of agricultural industries have highlighted a range of opportunities to reduce energy emissions by transitioning to renewable energy sources and by adopting more energy efficient farm equipment¹⁰. The first step to understanding the range of possible options at the farm business scale is to conduct detailed energy audits. State government programs have supported these types of industry initiatives, but they are no longer supported by the Federal Government as part of its Direct Action policy.

As a result of these energy audits, options to improve energy efficiency that have low capital outlays and short pay back periods are being adopted by farmers. However, there are barriers to adoption for some options, such as large up-front capital costs for equipment upgrades with longer pay back periods, which present barriers to improving energy efficiency.

For example, case study analysis conducted by Dairy Australia showed that with a 50% subsidy for installing more efficient heat pumps would make this a viable option for 89 of 101 farms, instead of 58 of the 101 farms without an incentive. It was estimated that the cost of providing such an incentive equates to approximately \$21t/CO₂e¹¹.

There is an opportunity for the Government to consider direct actions that would support improved energy efficiency on farms such as rebates for on farm energy efficiency audits or providing incentives for capital upgrades through either direct subsidy or providing for accelerated depreciation.

¹⁰ See for example <http://www.nswfarmers.org.au/r-and-d/farm-energy-innovation-program>
<http://www.cottoninfo.com.au/energy-use-efficiency> <http://frds.dairyaustralia.com.au/events/smarter-energy-use/>

¹¹ Dairy Australia, 2014. <http://www.dairyaustralia.com.au/Environment-and-resources/Energy-costs-and-the-carbon-price.aspx>