ISSUES PAPER 1
CLIMATE CHANGE: LAND USE – AGRICULTURE AND FORESTRY

NFF SUBMISSION

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Executive Summary

The NFF welcomes the opportunity to provide comments on the Garnaut Climate Change Review’s Issues Paper 1, Climate Change: Land use – Agriculture and Forestry (Issues Paper). The NFF congratulates the Garnaut Review in providing what we believe is a clear and concise outline of the key issues faced by the agriculture sector in the area of climate change.

The NFF recognises that it is in the interests of all Australian farmers that appropriate actions are taken to reduce the risk of increased climatic variability or adverse climatic changes occurring in the future. Australian agriculture has the potential to provide an important contribution to the national effort to reduce net greenhouse emissions. In this regard, the NFF must reinforce the point that change in land use by Australian farmers since 1990 is the major reason Australia will meet its Kyoto emissions targets. Significant costs were incurred by the farm sector in generating this environmental benefit on behalf of the entire community.

The NFF understands that the development of an Australian Emissions Trading Scheme (ETS) is the preferred response to the need to reduce net greenhouse gas emissions. However, if poorly designed, an ETS has the potential to impact negatively on the sustainability of many individual farm businesses. For this reason, considerable care needs to be exercised in developing an ETS to ensure that outcomes are environmentally effective and give full consideration to economic and social implications. ETS rules also need to be appropriate and flexible, given the current degree of uncertainty and the reality that emerging knowledge and future innovations are likely to alter the relative desirability of different policy responses in the future.

While the NFF notes that agriculture will initially not be subject to a cap under an ETS, this does not mean that agriculture will not be affected. In the first stage of an ETS a variety of agriculture supply-chain members will be meeting emissions thresholds and all agricultural businesses will be affected by the higher costs of energy, fuel, transport and most other input costs resulting from the ETS.

Furthermore, we should recognise that an ETS is not the only instrument available to bring changes to farming systems and establishing incentives for reductions in agriculture’s carbon footprint. Other mechanisms that may work effectively in conjunction with the ETS while helping with transitional issues faced by agriculture may include Best Management Practice (BMP) adoption programs, stewardship programs and grant schemes.

Agricultural businesses require detailed input to the design of the ETS and other mechanisms aimed to reduce Australia’s emissions. The rules developed in this regard will have significant implications in setting a precedent for any eventual inclusion of agricultural emissions in a future reporting system.
This submission outlines issues identified by the National Farmers’ Federation (NFF) for agriculture in response to policies addressing climate change:

**Adaptation in the agricultural sector**

*Farmers’ proven record of adaptation* - Armed with the correct science and technologies, Australian farmers can and will adapt to meet challenges including a changing climate.

*Adaptation Research and Development needed* – Research and Development (R&D) is vital in providing farmers with the appropriate signals to build capacity to respond to the challenge of climate change through adapting their farm systems.

**Mitigation issues for agriculture**

*Accounting for agricultural emissions* - Further R&D is required to gain a better understanding of the Life Cycle Assessment (LCA) of agricultural emissions across the variation of Australian agricultural systems. Current accounting for the emissions profile of agriculture is misleading and will severely restrict the sector’s ability to make realistic abatement decisions in the lead-up to, and following the commencement of an ETS.

*Appropriate permit allocations for agriculture* - Failure to ensure that agriculture is provided with transitional compensation on commencement of an ETS will damage the competitiveness of Australian agriculture in its major international markets. It will also result in a disproportionate burden of the ETS being incurred by the agriculture sector and negatively impact on the broader Australian economy. Permit allocations for agriculture should also recognise past actions undertaken by the farm sector to curb emissions.

*Potential for perverse outcomes* - The NFF requests assurances from Government that the design of the ETS will not have a perverse impact on Australian agricultural productivity, broader environmental issues and regional communities. Potential for ‘leakage’ to the detriment of the global environment is significant.

*A suite of positive mitigation incentives are available* - Alternative mechanisms that may work effectively in conjunction with the ETS while helping with transitional issues faced by agriculture include voluntary Best Management Practice (BMP) adoption programs, environmental quality assurance programs, stewardship programs, tax incentives, subsidies and grant schemes.

**Practical considerations for agriculture’s involvement in an ETS**

*Transitional issues for agriculture* - Uncertainty regarding agriculture’s potential transition to move to a covered sector, rules about offset credits and future engagement in voluntary carbon markets have the potential to severely restrict agriculture’s engagement within the ETS.
Defining “baseline” permit allocations - At such time as agriculture is included under the cap, it is essential that baselines and related permit allocations to agriculture reflect a business-as-usual operating environment. This must take into account factors such as drought and the fluctuating nature of agricultural production and emissions.

Administrative arrangements - The NFF is concerned that there is currently no program able to offer viable solutions on how individual farm enterprises can effectively measure and report on emissions at an entity level.

Point of obligation – While making the processing sector the point of obligation for agriculture has advantages in minimising transaction costs, the NFF is concerned that this may obscure market signals reaching individual farm entities. BMP programs may provide a future mechanism by which such an issue can be managed.

The importance of communication - Communications strategies are urgently needed to better inform the market about the key elements of the proposed ETS. Significant extension resources are needed.

Recognition of carbon sinks and offsets

Recognition of on-farm energy reductions - Government must ensure that the farm sector can transparently identify incentives to adopt on-farm energy emissions reducing techniques. Failure to do so will mean that agriculture will forfeit a significant opportunity to reduce Australia’s total carbon footprint.
The National Farmers’ Federation

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 of 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 collectively form the NFF.

Each of these state farm organisations and commodity councils deal with state-based 'grass roots' issues or commodity specific issues, respectively, while the NFF represents the agreed imperatives of all at the national and international level.

Adaptation in the agricultural sector

Farmers’ proven record of adaptation

Australian farmers have historically demonstrated a high capacity for adaptation and the ability to achieve excellent outcomes from investment in R&D.

A demonstration of Australian farmers responding and adopting new technology has been seen by the drought ravaged winter crop of 2006-07. While the 9.8 million tonnes of wheat produced was well down on the 26 million tonnes produced the previous season, had we been using 1980’s farm techniques, it is estimated that less than 3 million tonnes would have been produced.¹

Further examples of farmers adapting to changing circumstances include the adoption of crop rotation techniques to manage soil, introducing new crop varieties to suit regional profiles, improved water reticulation systems to use markedly less water and diversification of production systems to adjust to seasonal conditions.

Armed with the correct science and technologies, Australian farmers can and will adapt to meet new challenges including a changing climate.

A failure to act will have serious negative implications for Australian agriculture, clearly outlined within the Australian Bureau of Agriculture and Resource Economic’s (ABARE’s) recent report titled Climate Change: Impacts on Australian Agriculture. This analysis shows that without actions to adapt to a changing climate and to mitigate the effects of greenhouse gases, Australian production of wheat, beef, dairy and sugar could decline by up to 10% by 2030 and 19% by 2050.²

¹ Grains Council of Australia, 2007 Farm Practices Database.
² ABARE 2007, Climate Change: Impacts on Australian Agriculture
**Adaptation Research and Development needed**

R&D is vital in providing farmers with the appropriate signals to build capacity to respond to the challenge of climate change through adapting their farm systems. This same analysis can also inform infrastructure investment decisions and help inform international discussions on reducing greenhouse gas emissions. Industry can and will play a role in developing this science, however it is vital that Government also supports this process.

This view is supported by Dr Mark Howden of CSIRO (also a member of the Intergovernmental Panel on Climate Change) who stated “Given that our climate has already changed and that further change seems inevitable, it is important to take a pro-active stance to assess adaptation options, their benefits and costs, and how to alter policy and investment environments to facilitate their uptake.”

“...the damages from climate change will increase unless a whole new array of adaptations are developed and used. These adaptations may need to include diversification of production systems and livelihoods and would need supporting policies and programs in addition to soundly based research and development....It will also need adaptation assessment frameworks that are relevant, robust and easily operated by farmers, policymakers and scientists.”

It is the NFF’s view that the primary focus of this adaptation R&D should be the following:

- Develop, implement and monitor a sector-wide strategic plan for investment in research for agricultural adaptation to climate change and variability.
- Research and develop more accurate climate models and decision tools to allow effective forward planning for agricultural businesses and governments.
- Research and develop farming system responses required by agriculture to deal with the effects of climate change and variability.
- Research and develop ways for agriculture to reduce greenhouse gas emissions and sequester more carbon through commercial farming systems.
- Related ‘sustainable production’ initiatives.

**Mitigation issues for agriculture**

**Accounting for agricultural emissions**

In order for agriculture to effectively mitigate greenhouse gas emissions, it is vital that we attain an accurate profile of the carbon footprint of the sector.

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3 CSIRO Press Release 4 Dec 2007, Adapting agriculture to climate change (Reference: 07/240)
In this regard, the NFF is extremely concerned that greenhouse accounting rules under the United Nations Framework Convention on Climate Change (UNFCCC) and the Marrakech Accords do not accurately reflect the net carbon profile of agriculture. Instead, these rules treat agricultural emissions in the same way as those from the fossil fuel sector (as though they were a once-only conversion of a permanent carbon store), without taking into account the carbon cycling that occurs naturally within agriculture and terrestrial systems. Furthermore, this natural process can be enhanced by modern agriculture’s improved productivity.

The NFF argues that it is misleading to only report on agriculture’s contribution of around 16-17% of total Australian carbon emissions and 10-12% globally. It must be made clear that the emission figures currently reported for agriculture are the result of an accounting construct, not absolute measurement. The simplistic representation of agriculture as a major greenhouse polluter, on a par with coal-fired power stations, only serves to fuel the efforts of certain groups to call for public opposition to consuming agricultural produce. For example, we have recently seen calls for consumer boycotts of beef despite the fact that methane concentrations in the atmosphere have been relatively stable since 1990.4

This reinforces the need to gain a better understanding of the Life Cycle Assessment (LCA) of agricultural emissions across the variation of Australian agricultural systems. Farmers and policy makers need to acquire a better understanding of net agricultural emissions across the variation of Australian and international agricultural systems. Such analysis must involve an improvement to emissions accounting at farm, company, industry, national and international levels to reflect the actual net balance of agriculture’s environmental footprint. It must also take into account Australian agriculture’s diversity in climate, soil types and farm practices. A one-size-fits-all approach to agricultural carbon accounting is clearly inappropriate.

Analysis completed on Life Cycle Assessments should also feed into the determination of an appropriate permit allocation for agriculture if it becomes a covered sector that reflects a business-as-usual environment.

Failure to determine and acknowledge the complete emissions profile of agricultural systems across commodities and across regions will lead to a misleading farm sector carbon footprint. Furthermore, this will severely restrict agriculture’s ability to make realistic abatement decisions in the lead-up to, and following the commencement of an ETS.

**Appropriate permit allocations for agriculture**

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4 Australian Farm Institute, October 2007, *Farm Institute Insights Vol 4, No 4*, “Less meat means less heat – or does it?”

5 National Oceanic and Atmospheric Administration, [http://lwf.ncdc.noaa.gov/oa/climate/gases.html](http://lwf.ncdc.noaa.gov/oa/climate/gases.html), accessed on 18/12/07
Agriculture currently contributes approximately three per cent of Australia’s total Gross Domestic Product (GDP), with a Gross Value of Farm Production equating to $36.2 billion. However, including the vital flow-on economic activities supported by farm production, agriculture can be said to account for 12.1 per cent of GDP (approximately $103 billion), supporting 1.6 million jobs.\(^6\)

Agriculture is also a major contributor to Australian exports, accounting for one fifth of total Australian merchandise exports. Annual Australian agricultural exports are currently valued at $27.6 billion and account for approximately 70 per cent of Australia’s total agricultural production.\(^7\)

Australian Agriculture meets the definition of being a trade-exposed sector and is set to incur additional costs from an ETS, even while classified as an uncovered sector. It must be recognised that any additional costs incurred by Australian agriculture from an ETS will not be faced by its major international competitors and the Australian sector is not in a position to pass on the additional costs to global customers due to the highly elastic nature of these markets. Agricultural firms will therefore suffer disproportionate loss as a result of the introduction of an aggregate constraint on Australia’s emissions.

It is also noted by the Australian Bureau of Agriculture and Resource Economics (ABARE) that on-farm costs of energy and emissions intensive inputs such as fuel, fertilisers and chemicals, comprise up to 19% of total farm costs.\(^8\) Each of these cost items, along with the cost of energy, will increase following commencement of the ETS. This demonstrates that agriculture will suffer a disproportionate loss from the ETS, even as an un-covered sector, indicating that the industry is entitled to up-front compensation.

In the 2007-08 State of the Regions Report, National Economics also found that the costs incurred through climate change will be disproportionately skewed to those living and working in regional areas. The report found that households in the rural and resource zones would face increasing additional costs of around $3,000 per annum, or twice the level of core metro zone households.\(^9\) Combined with agriculture’s trade exposure, such findings demonstrate that agriculture will be exposed disproportionally by climate change policies and an ETS and as a result should access transitional compensation to allow it to adjust to the new operating environment.

Transitional compensation for industries such as agriculture may be provided in the form of an up-front, free allocation of permits in recognition of the disproportionate (that is, significantly larger than average) loss of asset value as a result of the introduction of an aggregate constraint on Australia’s emissions. Trade exposed,

\(^6\) based on modelling by Econtech for the Australian Farm Institute, *Australia’s Farm Dependent Economy Report*, 2005.

\(^7\) DAFF, *Australian Agriculture and Food Stocktake*, 2005

\(^8\) ABARE, *Australian Commodities*, vol 14 no. 3, September quarter 2007

emissions intensive (TEEI) firms should also receive free permits while their international competitors do not face a comparable carbon constraint.

Failure to ensure that agriculture is provided with transitional compensation on commencement of an ETS will damage the competitiveness of Australian agriculture in its major international markets, result in a disproportionate burden of the ETS being incurred by the agriculture sector and will have a negative impact on the broader Australian economy.

Regarding permit allocations under an ETS, the NFF also reiterates the need to acknowledge prior efforts undertaken by farmers, both voluntarily and due to regulation, that have seen emissions from agriculture, forestry and fishing reduce by 41.7% between 1990 and 2005. Land clearing bans in NSW and Queensland are commonly referred to in this equation, but also relevant is the move by farmers towards minimum tillage practices and additional tree plantings. According to the ABS Agricultural Census, Australian farmers have escalated their planting of trees for environmental purposes. In 1991, the ABS Agricultural Census recorded that farmers planted 9 million tree seedlings for conservation purposes. In 2001, farmers planted 20.6 million tree seedlings for natural resource management purposes.10

Furthermore, the NFF seeks an assurance that principles on free permit allocations are not restricted to “firm” level. It is the NFF’s view that eligibility for free permit allocations in agriculture should be open to being accessed on an industry-wide basis in order to minimise administration costs.

Potential for perverse outcomes

Triple Bottom Line approach needed

An ETS must not lead to perverse impacts on Australian agricultural productivity, broader environmental issues and regional communities.

Agricultural productivity

Agriculture, more than most sectors of the economy, has been forced to rationalise and increase its economies of scale in order to combat declining terms of trade. The Australian Productivity Commission report, Trends in Australian Agriculture (2005), demonstrates that productivity growth in agriculture has more than doubled over the past 14 years, consistently outperforming other sectors. In the past two decades, the Australian farm sector has averaged annual productivity growth of 3.8% a year. Improvements over the past 30 years have resulted in a national ‘productivity dividend’ of more than $170 billion.11

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11 Australian Productivity Commission, 2005, Trends in Australian Agriculture
Such productivity growth has allowed farmers to remain internationally competitive and sustain their businesses and incomes in the face of agricultural terms of trade declining by 4.8% in the five years ending 2005-06. In addition, it has allowed Australian farmers to remain competitive in what is the most distorted sector of trade in goods. In no other sector are trade barriers as high, with average tariffs more than three times higher than in non-agricultural goods, and some tariffs reaching as much as 800%.13

The Australian agricultural community is extremely concerned that measures designed to continue such productivity improvement may be stunted or indeed reversed, by the potential penalties for increasing greenhouse gas emissions from building livestock numbers and/or continuing nitrogenous fertiliser use. It is the NFF’s view that the ETS design must not inhibit productivity gains to the significant detriment of Australian agriculture and the domestic economy.

On the contrary, the NFF argues that increasing Australian agricultural production volumes is in the interest of the world community in its efforts to reduce total global emissions. Lincoln University in New Zealand specifically undertook research looking into the issue of food miles. The result of this study demonstrated that dairy produce emerging from farming systems in New Zealand are significantly less emission intensive than those from the British dairy system.14 While further LCA analysis specific to the range of Australian farming systems is required in this area, the NFF is confident that findings will unequivocally support this notion across the wide spectrum of Australian agriculture.

The NFF also believes that forcing reductions in nitrogenous fertiliser use by agriculture, in the absence of viable alternatives, will not have a clearly defined impact on the net carbon footprint of Australian agriculture. It must be remembered that such fertiliser use is designed to enhance vegetation growth and in doing so, boost the carbon sequestration potential from the farming system. It also increases the water use efficiency of the plant. Furthermore, reducing fertilizer use will potentially reduce livestock growth rates, thereby increasing livestock age at turn-off and emissions per kilogram of meat production.

The NFF believes that significant R&D funding is required to support the development of commercially viable alternatives to conventional fertilisers, such as the hybrid organic and chemical fertilisers. In the meantime, however, further LCA analysis in this area is required prior to the Australian Government making any policy decisions with regards to the use of nitrogenous fertilisers in Australian agriculture.

12 ABARE, 2007, Australian Commodities – September Quarter 07.3
14 Lincoln University, July 2006, Food Miles – Comparative Energy/Emissions Performance of New Zealand’s Agriculture Industry
Australian agriculture has a history of embracing innovation with regard to sustainable farming practices. Government must recognise, however, that many abatement opportunities for agriculture are currently either under-developed, forbidden by current scheme rules, or not yet cost-effective. For example, while methane capture is technically available today, it is not cost-effective in the context of global competition. Genuine commercial options to abate must be provided to agriculture before penalties on agricultural emissions can be fairly imposed.

On the issue of methane emissions from livestock, the NFF believes Government must also look at accounting for methane emission intensity (i.e. methane output per unit of production) rather than total methane emission reporting. The potential for emissions intensity benchmarking in agriculture to provide creative and innovative approaches to deliver multiple greenhouse and productivity benefits has been clearly outlined by the Climate Change in Agriculture and Natural Resource Management (CLAN) Working Group report titled *Emissions Intensity Benchmarking in Australian Agriculture: Report on National Consultation 2006-07*. The NFF believes that this is a potential mechanism to avoid perverse productivity and leakage outcomes for the livestock sector in particular and, as with all aspects of farm sector abatement and sequestration, further R&D in this area is required.

On this same issue, it should also be noted that there is currently no method known for significantly reducing methane emissions from extensively grazed sheep or cattle. R&D into commercially viable mechanisms for this predominant livestock production system is also required.

**Food vs. carbon**

With the growth of the biofuels sector, economic growth leading to increased demand for protein in developing countries, increased urbanisation and further population encroachment on agricultural land, grain stocks are at their lowest levels in over 30 years.

Governments around the world cannot afford to adopt climate change policies that significantly distort resource and land allocation away from agricultural production, at the expense of the world’s growing food needs. The NFF recognises that distortions in resource allocation will inevitably occur, and indeed are intended to occur, under an ETS. However, Government must recognise that, if poorly designed, the ETS will adversely affect the balance of global supply and demand of food that is already experiencing a significant adjustment.

**Environmental impacts**

Perverse environmental impacts must also be avoided in the design of an ETS. The NFF is concerned that Governments across the world risk becoming so focussed on

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greenhouse gas emissions that they will adopt policy settings that may lead to negative environmental outcomes in other areas, such as groundwater recharge, biodiversity, fire risk and pest and weed management. For example, the NFF recognises that plantation forestry can play a genuine and positive role in Australia’s efforts to reduce greenhouse gas emissions and sequester carbon from the atmosphere. However, there are many regions where it is inappropriate to have plantation forestry due to insufficient rainfall levels and/or impacts on water run-off into local rivers and wetlands. Doing so may have implications on native wildlife, river water volumes and quality and agricultural production capacity.

The NFF seeks limits to be placed on the extent to which large-scale plantation forestry developments in high rainfall areas are able to be utilised as offset credits in a national emissions trading scheme. Furthermore, such developments should be subject to full planning consent including consideration of water impacts, and that the taxation treatment of these developments be re-examined in the light of changed revenue streams likely to arise within a national emissions trading scheme.

Policies to manage domestic carbon emissions must be careful to minimise leakage of agricultural production to other countries to the detriment of the global environment. ‘Leakage’ can be defined as the process of driving domestic production offshore to countries without the same climate policies. Obviously, the ultimate solution to the problem of leakage is to attain full global participation in an ETS. The NFF recognises that this is unlikely to eventuate in the near future, suggesting that leakage could be a significant problem. While allowing leakage to occur will assist Australia to meet our Kyoto obligation, the NFF believes that shifting agricultural production to other countries, which may have higher emissions intensity systems, will be to the detriment of the global greenhouse gas equation.

Social impacts

An ETS under the current international carbon accounting rules will potentially lead to negative social impacts on regional communities. Under the current permanence rules, forestry is the only mandated sequestration option available in regional areas. Furthermore, Australian Greenhouse Friendly rules on carbon sink eligibility require a minimum forest lifespan of 70 years. This means that regional communities will not even benefit from the influx of labour from current plantation forestry programs.

In fact, a mature stand of timber is carbon neutral, merely acting as a one-off store of carbon. Encouragement and incentives should be provided for regular harvesting of the timber into millable products with an extended lifetime, and replanting the site so that ongoing sequestration of carbon can occur. This may provide both a more

18 Australian Greenhouse Office 2007 Greenhouse Friendly, Forest Sink Abatement Projects
effective emissions reduction result and improved social outcomes. We urge Government to take these potential social impacts into account.

**A suite of positive mitigation incentives are available**

The NFF recognises that in markets without impediment, an ETS is the most economic way to reduce national greenhouse gas emissions, however this should be viewed as one part of a broad suite of measures. An ETS is not the only instrument available to bring changes to farming systems through establishing positive incentives for reductions in on-farm greenhouse gas emissions. Indeed, due to transaction cost and implementation issues facing agriculture, it may be significantly more cost effective in the short-to-medium term to implement alternative schemes in partnership with the farm sector that assist in reducing carbon levels in the atmosphere.

Alternative mechanisms that may work effectively in conjunction with the ETS, while helping with transitional issues faced by agriculture, include voluntary Best Management Practice (BMP) adoption programs, environmental quality assurance programs, stewardship programs and grant schemes. Such programs should be industry owned and developed, and may help to ensure maximum uptake of emissions abatement activities by the farm sector as well as assist in the potential transition of agriculture to become a covered sector.

The NFF does not support a regulatory approach to dealing with climate change. Such practices have been utilised by Australian Governments in the past, through the restrictive regulation of land clearing in order for Australia to meet its Kyoto targets. This regulatory practice has come at significant cost to Australian farmers, led to numerous perverse outcomes and has created significant limitations to future farm productivity.19

**Practical considerations for agriculture’s involvement in an ETS**

**Transitional issues for agriculture**

**Transition to becoming a covered sector**

The NFF understands that emissions from agricultural production, forestry and land use will not initially be covered sectors within an Australian ETS. However, despite not initially being a covered sector, agriculture will be eligible to generate offset credits and sell these into the ETS.

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Without a clear understanding of agriculture’s possible transition to becoming a covered sector, agriculture should be cautious about delivering offsets into the market or carrying out early abatement activities. Farmers face uncertainty on a timeframe of when they will make the transition to becoming a covered sector within the ETS and in doing so require access to their own offset credits. Farm business wanting to account for these credits within their own carbon profile will not be able to do so if these credits have already been sold.

Furthermore, the NFF recognises that, assuming demand for credits remains constant, the price of carbon may gradually increase should free permit allocations under an ETS be reduced over time. In doing so, this will mean that farmers who sell offset credits into the market while agriculture is an uncovered sector, may later be required to re-purchase those same credits at a higher price at a later time when agriculture becomes a covered sector.

Such complexities regarding agriculture’s transition from being an un-covered to a covered sector are extremely concerning. As a result, the NFF believes that it is prudent for farmers to wait for more clarity about the design and transitional timeframes of the ETS before any direct participation within the ETS by agricultural firms can be contemplated. Furthermore, the NFF would encourage the formation of a concerted readjustment program for agriculture that can help to address such transitional issues for the sector.

Rules on offset credits

The NFF believes that clarity is needed on the life of offset credits delivered to Australia’s ETS, and believes that a defined time period is required covering the validity of the offsets sold into the market. Without certainty on this issue, we believe that farmers may lack incentive to abate prior to commencement of the ETS as they are unsure about the period under which the credits generated will continue to be valid. Furthermore, the capacity to enter and leave the market in response to market signals is vital to ensure food and carbon farming are driven by the market. It will also allow farmers to participate in a secondary market rather than simply providing long term sinks at a price that may bear no relationship with the current market price.

In addition, with the Government indicating its intention for a smooth transition for the economy in terms of initial emission caps, it may be more beneficial for farmers to wait for the carbon price to appreciate before offering their offset credits to the marketplace. Certainty over the legal life of offset credits will therefore help farmers in making their abatement decisions.

Engagement in voluntary carbon markets
The NFF also notes that some farmers are already engaging in voluntary domestic and international carbon markets that place a price on emissions offsets delivered by farmers. The NFF seeks further clarification on how these credits will operate in parallel with the official Australian ETS. Specifically, issues that require clarification include:

- Farmers’ ability to engage simultaneously in voluntary and official markets.
- The ability of covered sectors to purchase offsets from offshore sources and the currency of such credits within the ETS; and,
- Intentions to align accounting rules between markets.

**Defining “baseline” permit allocations**

Given that Government has indicated an intention to, at some point, include agriculture under the cap, it is essential that agriculture is immediately engaged in discussion with ETS designers about the detail of implementation. It is critical that an agricultural cap factors in drought and the generally fluctuating nature of agricultural production and emissions. Therefore any baselines must reflect ‘business-as-usual’ conditions.

Australian agriculture is currently facing severe drought conditions to varying degrees across the country, and has done so for the past five years. As a result, stock numbers and fertiliser use are down significantly on levels that would be incurred in the normal course of business. Farmers should not be bound by emissions caps that are set using periods when climatic conditions have artificially adjusted emissions from the sector.

Furthermore, diverse agricultural commodity sectors from different regions across Australia will not necessarily experience the same emissions profile under a business-as-usual scenario. For example, under ‘normal’ rainfall and operating conditions, the emissions from a dairy cow in the Goulburn Valley in Victoria will differ vastly to those from a dairy cow in the South Burnett in Queensland.

Variations such as these must be taken into account in any future policy decisions determining the baseline permit allocation level for agriculture. Detailed analysis must be undertaken on what genuinely constitutes a business-as-usual operating environment for the various sectors of agriculture in various locations.

**Administrative arrangements**

The NFF is concerned that there is currently no program able to offer viable solutions on how individual farm enterprises can effectively measure and report on emissions at an entity level. With 99% of total farm enterprises in Australia being family owned and operated, the challenge remains on how to reduce the transaction costs to a level where individual farmers have a genuine incentive to abate
emissions. A failure to engage on an individual enterprise level will be forgoing a significant opportunity to make a real difference to Australia’s carbon profile.

Point of obligation

The NFF recognises that the point of obligation is a complex issue for agriculture due to the large number of farming enterprises, and the transaction costs involved in monitoring and measuring their emissions.

New Zealand has proposed that their ETS will initially have the processing sector as the point of obligation for agriculture in order to overcome some of these transaction cost issues. However, this assumes that agricultural emissions are a function of output only, without recognising the differences between various farm systems. Having the processing sector as the point of obligation may therefore not encourage farm enterprises to utilise the full range of options to reduce emissions per unit of output. Farmers require this market signal in order to make appropriate adjustments to their farm systems and absence of this signal may exacerbate problems with leakage. 20

Clearly, this generates a dilemma for incorporating the agriculture sector into an ETS for which no clear solution currently exists. However implementation of voluntary, accredited BMP programs for individual agricultural commodity sectors, developed with farmer input, may provide a future mechanism by which such an issue can be managed. Third party audited, environmental quality assurance certification for producers who adopt farming practices that decrease emissions could also be a viable mechanism.

The importance of communication

Communications strategies are urgently needed to better inform the market about the key elements of the proposed ETS. This is particularly the case with the agriculture sector, which more explicitly than most sectors, faces a range of potential opportunities and costs from an ETS. An ill-informed market will inevitably lead to poor decision-making and see individuals hurt financially. The NFF recognises the Government’s urgency to establish an ETS yet this in no way exempts the need to communicate effectively with all stakeholders.

The Australian Government should not underestimate the extension challenge involved in communicating with a key small business sector like agriculture. With over 130,000 farm businesses across Australia, the vast majority of which are family owned and operated, the NFF believes that significant resources are required in this area in order to achieve genuine outcomes. Ineffective extension to the agriculture sector will lead to poor adoption of abatement actions on-farm and represent a lost

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opportunity for Australia to make a significant contribution to the global climate change challenge.

**Recognition of carbon sinks and offsets**

**Recognition of on-farm energy reductions**

Australian agriculture can play a significant role in reducing total carbon emissions through a range of on-farm energy reducing activities. In this regard, it is vital that farmers are offered direct, positive incentives to adopt a flexible range of options that allow them to directly offset their farm emissions. The NFF believes there is great potential for agriculture to partner with the renewable sector, and that it is essential that policy incentives are provided to encourage farmers and other regional industries to adopt local-scale renewable technologies.

The NFF believes that consideration ought to be given to an ETS design that allows abatement credits to be provided directly to farms and other firms that adopt renewable energy technologies. Such a design would entail a more complicated accounting system for energy emissions and credits, so as to avoid double counting, but may be warranted to ensure a more rapid adoption of renewable energy. The NFF believes that insufficient public dialogue has been conducted regarding such details of the ETS.

The NFF recognises that an efficient market, providing carbon reduction incentives at the point source, will see these benefits passed through the supply-chain. On commencement of the ETS, Government must ensure that the market is indeed operating efficiently and that the farm sector can positively identify incentives to adopt on-farm energy emissions reducing techniques. Failure to do so will miss a significant opportunity to reduce Australia’s total carbon footprint.

Prior to commencement of the ETS, the NFF recognises that point source energy providers may have incentives to adopt new carbon reducing technologies by accessing early action credits. However, these permits will not convert into financial benefits for energy providers until commencement of the ETS when emissions caps are determined. This suggests that between now and the commencement of the ETS, the farm sector, and other downstream users of energy, will not obtain price signals from energy providers to incentivise them to adopt methods that reduce on-farm energy emissions.

Government must recognise that under the current international rules of carbon accounting, farmers will lack direct incentives from the carbon market to adopt on-farm energy emission reducing techniques. Should the farm sector be unable to claim offset credits for actions undertaken in this regard, this may influence a farmer’s decisions on whether they decide to abate emissions in this area prior to commencement of the ETS.
The NFF acknowledges that the Government has rebates and subsidies in place for the adoption of some renewable energy offerings such as solar panelling for personal use. However, we would urge Government to look at the complete range of renewable energy opportunities to ensure that further adoption by the farm sector is viable while lacking a positive market signal. This will allow farmers to clearly identify whether it is in their business interest to undertake such energy emission reductions on-farm and make a further contribution to minimising Australia’s carbon profile.

The NFF also requires clarification on the treatment of on-farm energy emission reductions if agriculture becomes a covered sector. Farmers are understandably concerned that their opportunities to reduce emissions and meet their allocated cap, without sacrificing their productivity, may be limited should adoption of renewable energy be excluded from their profile.

Reducing on-farm energy emissions through the adoption of renewable energy is seen by many farmers as a significant source to meet future designated emissions caps. The NFF seeks further detail on how this segment of farm (and other supply-chain sector) greenhouse gas emissions would be accounted for as a covered sector under the ETS.

Clarity is also required by the NFF on situations where the farm sector is a manufacturer of energy. For example, what offsets are available to the farm sector if a farm is generating energy through the conversion of methane and then delivering this energy back into the grid. Another example is if the farmer crushes a percentage of their canola output and manufactures a biodiesel fuel or blend on-farm. The NFF believes that such activities that meet recognised methodologies should attract offsets for the farm sector.

**Conclusion**

The NFF believes that Australian agriculture can play a genuine role in achieving the end-goal of reducing Australia’s total carbon emissions.

The agriculture sector recognises that it has significant potential to contribute to a reduction in Australia’s greenhouse gas emissions profile. However, before this can be achieved, the Australian farm sector needs recognition of the true carbon profile of their farm enterprise, clarity on the range of commercially viable abatement activities, and appropriate rule changes to allow this potential to be realised.

Furthermore, the design of the ETS is paramount to ensuring that sectors, such as agriculture, do not incur disproportionate loss and that economic, social and broader environmental issues are taken into account. Providing clear emissions abatement
incentives to all sectors in the lead-up to, and following commencement of the ETS is of vital importance and will set precedents for the scheme and how it will operate.

This paper outlines a number of key areas of interest to the NFF, and we look forward to engage in further discussions with the Garnaut Climate Change Review on these and other emerging issues.

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