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The Hon Dick Adams MP,
Chairman
Standing Committee on Primary Industries and Resources
PO Box 6021
House of Representatives
Parliament House
CANBERRA ACT 2600
20 March 2009

Inquiry into the role of government in assisting Australian farmers to adapt to the impacts of climate change

Dear Mr Adams,

Grain Growers Association Ltd (GGA) is a not-for-profit, member based, industry association operating for the promotion and development of agricultural resources in Australia. GGA represents the interests of 17,000 members, the majority of whom are active producers in the grains industry.

It is our view that the grains industry can develop win:win outcomes for both climate change adaptation and reducing greenhouse gas emissions. As an industry we believe we have an obligation to reduce our sectorial emissions in line with the targets set by the Federal Government where possible and practical from the commencement of the scheme. However we also believe the Carbon Pollution Reduction Scheme (CPRS) in its proposed form is not an appropriate mechanism for diffuse source emissions, particularly given the international rules on these issues. Further, it fails to provide any incentives for addressing climate change adaptation. In some aspects it is counter productive and sends a confused policy message to farmers and to agriculture in general.

As an example, the current national water reforms include measures to incentivise improved irrigation efficiency on farm through higher technology water delivery systems. Where these systems are replacing gravity fed systems, the energy requirements of these systems is increasing and therefore emissions. However there are no apparent incentives for energy alternatives such as solar, wind or renewable fuel sources which would effectively address this issue.

Another example is the run down in investment in rail and port infrastructure. Rail transport is vastly more efficient in terms of energy than road but successive State Government underinvestment and parochial management has resulted in a transport system with limited capacity which is forcing industry to increasingly rely on road systems. One Government response to climate change adaptation and energy efficiency is to dramatically improve the transport infrastructure to assist growers to access markets using the most efficient methods and

potentially increasing the range of products growers might produce if more efficient transport were available.

We are very aware that the agricultural sector is likely to be the industry most seriously adversely impacted if the scenarios predicted for climate change over time eventuate. We are more than aware of the impacts that climate change has had on our industry as well as the continued run of adverse seasonal conditions in many parts of Australia.

We are also particularly concerned with the Government's CPRS and the continuing uncertainty and potential for perverse outcomes for our industry of the Government's predisposition for agricultural coverage based on a future decision timeframe and process. I have attached a copy of our Green Paper submission as it directly addresses the terms of reference for this inquiry along with many other points.

One of the great challenges for climate change adaptation is that Government policy needs to be flexible and that adaptation will also be required to deal with the other climate change policy and natural resource initiatives, not just the physical aspects of climate change.

There should be a strong incentive to promote the development of an holistic approach to farming and food production in a low carbon economy. We strongly support the development of an alternate pathway for the agricultural sector to make a positive contribution towards improve food security, reducing greenhouse gas emissions **and** avoiding adverse climate change impacts.

The Australian Government is responding to its international treaty obligations arising from the signing of the protocol through the development of the CPRS.

The ramification of this decision is that the terms of trade for farmers is undermined from the commencement of the scheme and international competitiveness is potentially reduced thus making farmers less viable during this consideration period. A further ramification is that investment in the sector will stall due to the uncertainty over what actions if any will be required to be taken subject to the decision process outcome.

The extent of Agriculture's assumed "coverage" under the proposed CPRS masks the reality of what is intended. The current scheme is designed to capture large emitters and does **not** cover farms explicitly. Agriculture as a sector is only being considered on the basis of upstream or downstream coverage or "points of obligation". In this respect both upstream and downstream manufacturers who are above the 25000 t threshold for reporting will be covered in any case for their manufacturing processes. This coverage will lead to cost and return impacts on growers direct farm businesses in any case.

Direct agricultural emissions are the source of the continued discussion and these mostly relate to:

1. NOx emissions from fertiliser application and livestock urine and improved pastures.
2. CH4 emissions from livestock enteric process and rice cultivation

It should be noted that these processes are a release of previously sequestered N or C and may be better accounted for using life cycle accounting, but also represent areas of waste and inefficiency in our current farming systems. We cannot afford a CPRS policy response which only penalises the use of fertiliser, crop rotations or other production inputs. A superior response would be to incentivise improved production systems to ensure that emissions were regarded as waste from the production process and seek improvements as a means of reducing the carbon footprint as well as adapting to climate change and maintaining international competitiveness.

Similarly we see strong opportunities in addressing the uptake of improved soil management which will lead to increase soil carbon levels. Improved soil health leads directly to improved water holding capacity, and a range of other beneficial responses that assist with climate change adaptation. Management activities such as the use of minimum tillage, crop rotation sequencing with improved pastures and legume and other disease break crops all play important roles in

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climate adaptation along with maintaining food production. The Government needs to ensure that the quest for implementing a CPRS does not have perverse impacts on food production and the capacity of our sector to adapt to climate change.

We should also look for other new revenue streams for farmers and regional Australia such as the harvesting of solar and wind energy and the production of renewable fuels. These new potential enterprises can be implemented on Australian farms right now if the correct incentives are put in place. New enterprise opportunities will assist to provide greater resilience to rural and regional communities, improved employment and investment opportunities and place Australia in a strong position for a changed climate and a low carbon economy.

We would like to suggest that the Government should consider a new "low carbon farming initiative", perhaps based on the dairy restructure package precedent with the funding coming from consumers (based on a levy or general increase in gst, etc) to support activities such as but not limited to:

1. conversion to minimum tillage equipment for grain producers (and some retrospective payments for those who have converted in recent years). This also helps with climate adaptation.
2. installation of solar or wind power / heat units for dairies, shearing sheds, feedlots, grain storage, wineries, etc
3. methane capture and flaring for intensive livestock
4. use of biodiesel in road / rail transport and on/ off farm use
5. on farm tree planting (such as the "Billion Trees" programme) using offset payments plus establishing biodiversity and salinity credits, etc.
6. payments for deep rooted pasture / legume crop rotation improvement

Some of these already attract support from some natural resource investments but most of these suffer from some form of market failure, yet if implemented will collectively have some beneficial response to the carbon footprint of the industry and would provide early action measures for our sector as well as reducing costs.

In relation to ongoing R&D funding there needs to be a new scheme developed to provide a strong funding stream to assist with the needs of our industry in addressing the challenges of climate change and a low carbon economy. One alternative is that the Government apply a 1% (or other appropriate figure) additional increase in GST on all food items (probably at a wholesale level) in Australia. This satisfies the Government desire that consumers face the true costs of externalities on production and would also cover food derived from international sources. The funds raised from this uplift in GST revenue would then be provided to an agricultural industry R&D fund to support the ongoing need for support for the improvements required.

We would welcome the opportunity to discuss these points with the Government at any time.

Yours sincerely

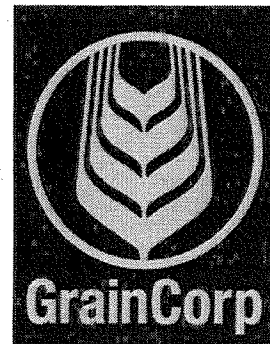
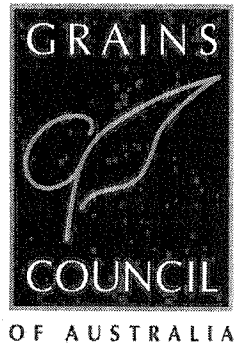
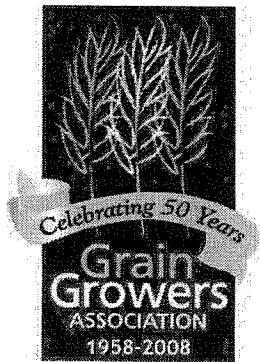


John Eastburn
Chairman

Australian Grains Industry

Submission in response to the

Carbon Pollution Reduction Scheme – Green Paper
September 2008



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Introduction

This submission is a joint response from the Australian Grains Industry (AGI) represented by the Grain Growers Association Ltd, the Grains Council of Australia and developed in conjunction with GrainCorp Ltd.

Grain Growers Association Ltd (GGA) is a not-for-profit, member based, industry association operating for the promotion and development of agricultural resources in Australia. GGA represents the interests of 17,000 members, the majority of whom are active producers in the grains industry.

The Grains Council of Australia's mission is to represent and promote Australia's grain industry, the policies of GCA and the interests of Australia's grain industry nationally and internationally. The current membership of the GCA is the grains committees of the following groups:

- AgForce Queensland
- South Australian Farmers Federation
- Victorian Farmers Federation
- Council of Grain Grower Organisations
- Tasmanian Farmers and Graziers Association

GrainCorp operates over 250 grain accumulation sites, receiving and storing grain for growers in Queensland, NSW and Victoria, offering 'site to customer' and 'site to port' supply chain solutions for domestic grain consumers and grain exporters.

GrainCorp also provides grain and bulk commodity export and import services at 9 port terminals: from Mackay (Queensland) to Portland (Victoria).

GrainCorp is the dominant joint venture partner in Allied Mills, Australia's largest flour miller and also imports and distributes protein meals from North and South America, and palm kernel and corn gluten from Asia, for poultry, dairy, pork, feedlot and other stockfeed customers, through Hunter Grain.

We welcome the opportunity to review and contribute to the development of an appropriate Australian response to the issues of global warming, climate change and the transition to a low – carbon economy, through consideration of the Carbon Pollution Reduction Scheme – Green Paper.

Climate change and global warming will impact most heavily on the Australian agricultural sector through potential changes in rainfall and temperature across the country. Agriculture, as a sector, is acutely aware of these issues and wishes to contribute not only to reducing the emission of greenhouse gases at source, but also contributing to lowering the global concentration of CO₂ through carbon capture and sequestration opportunities and the development of renewable energy sources that may be new

enterprise opportunities for Australian farmers. Such a holistic approach should include innovative new energy provision opportunities which may provide alternate revenue streams to Australia's farmers, which in turn will lead to increased sustainability of agriculture as well as renewed investment in rural and regional Australia.

In broad terms AGI supports the Government's climate change policy which is built on three pillars:

- reducing Australia's greenhouse gas emissions
- adapting to climate change that we cannot avoid
- helping to shape a global solution that both protects the planet and advances Australia's long-term interests.

We acknowledge that achieving these policy goals will be difficult and will require a flexible approach to accommodate Australian circumstances which encourages an innovation in the face of adversity approach that Australians have always demonstrated.

While we support the general thrust of the Carbon Pollution Reduction Scheme in that it is designed to contribute to reducing Australia's greenhouse gas emissions in total and uses a market based approach to encourage the most efficient mechanism for firms to act, we are concerned that the practical application of the scheme will have dire consequences for our economy. We recognise and support the Government's position of leaving agriculture out of the scheme at this point in time but we believe that this position creates undue uncertainty for the agriculture sector which will result in perverse outcomes and some degree of market failure.

We are concerned that a decision whether or not to include agriculture as a covered sector will not be made until 2013 – Government disposition 2.19. This position creates a five year (and possibly longer) period of uncertainty for Australian farmers and agricultural industries, which will lead to:

- confused investment in research to cover the possibilities of both coverage and non coverage;
- potential underinvestment from farmers in the face of uncertainty in which approach will be taken;
- potential for adverse outcomes for the environment as farmers, land and natural resource managers speculate on the impact of an unknown decision
- confused policy implementation as other policies influence activity in the agriculture sector and take precedence over carbon and emissions management
- greater speculation in terms of the likely activities and services required under an uncertain decision environment;
- inconsistency with other international approaches and our international trading partners
- opportunity for countries to consider the imposition of trade distorting measures on goods from countries not participating in equivalent carbon management systems in contravention of WTO agreements; and

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- that Australia's negotiating position in the development of the new phase of the Kyoto agreement will be ill-defined in respect of land use and land use change and biological systems including agriculture.

Therefore, it is the position of AGI that the government, for the reasons outlined above as well as those considered in the Green Paper, **make a firm decision now to permanently exclude agriculture** from being a covered sector. Instead, agriculture should contribute to the national effort to manage greenhouse gas concentrations through a range of "other complementary measures" such as offsets and voluntary market based solutions.

Our detailed response to the Green Paper is attached. We would welcome the opportunity to discuss these points with the Government at any time.

Yours sincerely



John Eastburn
Chairman, Grain Growers Association



Murray Jones
Chairman, Grains Council of Australia

The Government's three pillar climate change strategy

"The Government's three pillar climate change strategy seeks to reduce Australia's greenhouse gas emissions, adapt to the climate change we cannot avoid, and help shape a global solution.

Given the risks that climate change poses to Australia, it is in our national interest to help forge an effective global response to climate change and to begin the transformation that will deliver a safe society, a strong economy, high living standards and growing job opportunities into the future.

The Government's climate change policy is built on three pillars:

- reducing Australia's greenhouse gas emissions
- adapting to climate change that we cannot avoid
- helping to shape a global solution that both protects the planet and advances Australia's long-term interests."

AGI supports the sentiments of the Government's approach to climate change, however we would like to see greater emphasis placed on the opportunity for Australia's small business sector to participate and contribute directly to this challenge. We would also like to see a change in emphasis away from a strategy that seems to be solely based on the control of emissions to one which considers the full range of management options and opportunities including:

- Sequestration opportunities in soil and plants other than trees. Carbon can be captured and stored in many ways not only trees and all options should be considered and encouraged.
- Continued development of, and support for, renewable fuel sources such as biofuels as part of a wider strategy of energy security. Australia should encourage the use of biofuels and if necessary continue to mandate these into the fuel system. Farmers should be encouraged to use biodiesel on farm, which can be locally produced as an alternative to petrochemical diesel from the oil industry. The government should reconsider its approach to fuel excise to facilitate such developments.
- Rail should be the preferred means of transport to bulk freight within Australia to reduce fuel use and emissions from the transport sector. Such an initiative needs to reverse the historic underinvestment in rail infrastructure in regional Australia as well as improve intercity and metropolitan services.
- Diffuse energy generation opportunities across Australia, should be encouraged, particularly on farms, including solar and wind power generation and small scale biofuels production. That is, as well as large scale investments, that individuals be encouraged to have household or small business generation sets to cover the immediate site power requirements and may be able to contribute back into the power grid. Such a strategy would relieve the need for new coal powered systems and make greater use of the natural resources of wind and sun available to Australia.

- The opportunity for Australia to offer sequestration credit opportunities to other countries as a new export income source.
- The potential for Australia to offer services to other countries in terms of management of agriculture under harsh conditions.

Climate change impacts on agriculture

Agriculture and regional Australia generally will be the most strongly affected sector in terms of global climate change; therefore agriculture has a vested interest in the success of the Government's climate change policy.

Illustrative ABARE modelling results¹ indicate that, with potential changes in climate, Australia's production of key agricultural products are likely to decline relative to what would otherwise be: wheat by an estimated 9.2 per cent at 2030 and 13 per cent at 2050; beef by 9.6 and 19 per cent; sheep meat by 8.5 and 14 per cent; dairy by 9.5 and 18 per cent; and sugar by 10 and 14 per cent respectively (figure 1, box 1).

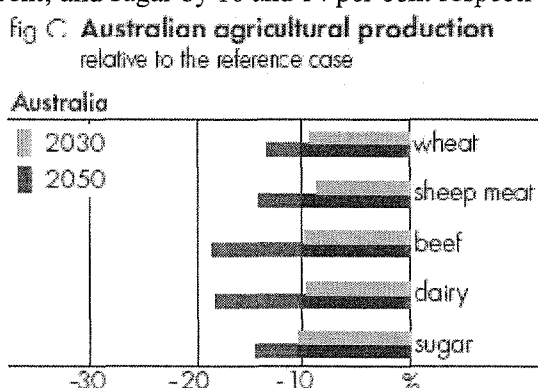


Figure 1. Percent change in Australian agricultural production as a result of climate change impacts, relative to what would otherwise be.

We need to develop a partnership approach between the agricultural sectors and the government to develop appropriate responses to reducing emissions and increasing productivity based on soil types, predominant enterprise groups, enterprise mixes and new opportunities. It is not appropriate to consider Agriculture as a single grouping for either emissions or abatement management. However there is a strong opportunity for agriculture to play a leading role as part of the solution to greenhouse gas management as part of a portfolio approach using all means possible to manage the global concentration of CO₂ in the atmosphere. Our challenge is to ensure that the international rules are appropriate to addressing this issue for Australia and that we seek win:win outcomes that utilise Australia's natural advantages.

¹ Climate change: Opportunities and challenges in Australian agriculture
Don Gunasekera, Catherine Tulloh, Melanie Ford and Edwina Heyhoe
Australian Bureau of Agricultural and Resource Economics, (ABARE), Canberra, ACT 2601. Email don.gunasekera@abare.gov.au

Coverage of Agriculture

2.19 Government disposition

The Government is disposed to include agriculture emissions in the scheme by 2015 and to make a final decision on this in 2013.

Given the compliance costs that would be involved if scheme obligations were to apply at farm-level, the Government seeks stakeholder views on the merits of an approach to coverage that would apply obligations generally off-farm, at some other point in the supply chain (for example, on fertiliser suppliers, abattoirs, dairies and beef exporters). The Government recognises that any approach will also need to provide appropriate incentives for on-farm abatement.

We agree with the Government's view that it is not yet appropriate for agriculture to be covered by the scheme, at least in the initial stages. However, the Government has not provided any indications about the basis for making a decision about the inclusion of agriculture. It is important that, as an industry, we understand the information requirements to support such a decision so that we can be working in partnership with the Government to support an informed decision if this approach is accepted.

The Green paper provides many reasons for agriculture not to be covered initially and, we agree agriculture **should not be covered** by the scheme at present. We go further though, and propose that the position of a potential decision in 2013 creates an atmosphere of uncertainty in the agriculture sector which will result in

1. a reduction in farm viability for the initial period of the scheme in that farm costs will increase due to exposure to the covered sector but without a corresponding ability to participate in credit sales or the provision of offsets and a curtailed voluntary market sector.
2. underinvestment by farmers due to uncertainty about the scheme requirements
3. overinvestment by policy groups, research bodies and agencies who will need to consider both alternatives of coverage or not and the implications of each.
4. a lack of clarity in Australia's international negotiations for the international scheme post 2012. International negotiations will begin in 2009 and so Australia's negotiators will need to have a clear understanding of the desired outcomes through this process. Uncertainty regarding the position of agriculture until 2013 will mean that the negotiations take place without the requisite directional clarity and so compromise Australia's negotiating position. Most of the schemes being developed and introduced by other Kyoto signatories (and other initiatives) do not include agriculture.²

Therefore we call on the Government to provide certainty and direction and make a decision now to exclude agriculture from the Carbon Pollution Reduction Scheme. However, we recognise that agriculture needs to make a contribution to reducing

² International Carbon Action Partnership (ICAP) <http://www.icapcarbonaction.com/index.htm> links to details of individual schemes being developed by other countries and regions.

greenhouse emissions and that it should be included in the portfolio of “other complementary measures” within the policy framework in a way that recognises that biological systems require a balance sheet accounting for both sequestration and emissions.

We are keen to explore the potential for the use of a voluntary market system consistent with that developed by the Chicago Climate Exchange (CCX) which would allow agriculture to provide offsets to the covered sector as well as incentives to reduce the direct emissions from activities where possible. We would be pleased to develop a partnership with the Government to pilot such an approach and assist to develop a portfolio of pathways to achieving a reduction in greenhouse gas concentration in the atmosphere.

Off farm points of obligation:

One suggestion in the paper to provide administrative efficiency to agriculture as a covered sector, is to apply the scheme obligations at off farm aggregated level. We strongly oppose this proposition for the following reasons:

1. from our discussions with grains industry aggregation groups (bulk handlers) this is not a concept that has been developed in discussions with these companies and our impression is that they would not want to provide such a “service” where it added costs and administrative responsibility to their businesses, particularly where they would be liable for actions of third parties outside of their direct control.
2. that such a proposal would rely on “averaging” or “pooling” of the responsibilities and obligations and provide diluted signals to the individual farmers involved.
3. that in order for the aggregated obligation entity to apply any transfer of permit or credit it would still require that the aggregator has greater knowledge and understanding of the systems applying to individual farms in any case. Therefore there is no administrative efficiency in this system, merely a potential for cost shifting to those least able to avoid this proposal.
4. the potential for a high degree of accounting discrepancy as farmers deal with a number of buyers and sellers of their input and output products as well as warehousing, forward purchases and sales and seasonally related enterprise mixes and farming practices.

Increased costs with no benefits:

Illustrative ABARE analysis³ which assumes a unilateral carbon penalty of \$40 a tonne of carbon dioxide equivalent emissions in Australia is estimated to result in:

³ Climate change: Opportunities and challenges in Australian agriculture
Don Gunasekera, Catherine Tulloh, Melanie Ford and Edwina Heyhoe

- agricultural production costs rising by 3 per cent for livestock and 4.5 per cent for cropping in Australia if agriculture is **excluded** from the scheme; and
- agricultural production costs rising by 18 per cent for livestock and 6 per cent for cropping in Australia, if agriculture is **included** in the scheme.

Under the proposals agriculture will not participate in the scheme until at least 2015. This means that from the proposed commencement of the scheme in 2010, Agriculture will experience an increase in costs from exposure to the covered sectors yet not be able to participate in either the provision of offsets, nor the scheme. There will be some opportunity to participate in a voluntary market but this will be limited, and only of small value, due to the uncertainty of potential inclusion within a short period. This situation will result in reduced viability of the farm sector during this period and potentially longer.

Agriculture is trade exposed:

We also contend that agriculture, as a sector, is trade exposed within the definitions provided in the green paper. If agriculture is to be included in the scheme based on the total sectorial contribution to national emissions, despite it being made up of small businesses each responsible for emitting less than 1000 tonnes of CO₂e, then all of the businesses within the sector need to be recognized as being trade exposed as the corollary of the argument.

Agricultural products are reliant on export markets for many of the major products and also exposed to imports from other countries. In both cases, Australian agricultural products compete in global markets with producers from other nations in price sensitive markets.

Australia's top 10 agriculture export markets

Partner Country-All countries	FY2006	
	A\$'000	Rank
- All countries	28,460,832	
Japan	5,407,133	1
United States	2,939,501	2
China	2,832,698	3
Republic of Korea	1,203,542	4
United Kingdom	1,196,061	5
New Zealand	1,039,842	6
Indonesia	945,940	7
Hong Kong	844,566	8
Taiwan	728,010	9
Singapore	630,359	10

Source: DFAT, STARS database

Value of Australian agricultural exports (fob), by destination

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	average	
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m		
Africa	992	1 292	1 544	908	1 174	743	1 034	623	1 039	4%
Americas	2 786	3 864	4 252	3 843	3 781	3 890	3 835	3 624	3 734	13%
North Asia	8 378	9 928	9 555	8 781	8 840	884	216	715	9 787	34%
South East Asia	3 759	4 890	4 550	4 001	3 865	4 179	4 146	4 084	4 184	14%
South Asia	1 264	1 215	1 230	652	774	815	733	1 058	968	3%
Middle East	2 004	2 898	3 276	2 085	2 140	1 960	2 213	1 610	2 273	8%
Europe	2 641	3 477	3 175	3 003	2 756	2 824	2 753	2 631	2 908	10%
Oceania	1 006	1 170	1 260	1 349	1 296	1 419	1 446	1 561	1 314	5%
New Zealand	692	815	900	982	972	1 073	1 113	1 196	968	3%
Other	1 729	1 373	3 090	3 243	1 923	1 197	570	1 686	1 851	6%
Total	25 251	30 922	32 831	28 847	27 522	28 984	29 060	28 788	29 025	100%

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Agriculture is a price taking industry with little or no ability to pass on increases in the price of inputs. Australian agricultural products compete in a highly corrupted world marketplace where many countries apply trade distorting and protectionist policies despite the best efforts of the Australian government to liberalise trade. There have been recent examples of countries discouraging exports of products to sure up local food security and so further distort the global supply and demand equation for food products.

We see a great risk in Australia developing a system that imposed further costs on the Australian agricultural sector without first extracting complementary measures and opportunities from other trading partners across a range of issues not just related to carbon. If we can take our involvement in WTO negotiations as an example of our ability to influence global climate change debate, we need to act very cautiously to taking on too much of a leading role without first ensuring that the rest of the world is also moving at the same rate.

⁴ ABARE Australian Commodity Statistics 2007

Opportunities for perverse outcomes

The position described in the Green Paper is a compromised position which makes special provisions for neutralising the impact on fuel consumers as well as special provisions for industry groups depending on the level and type of impacts from the scheme.

In terms of agriculture, the neutralising of fuel, while leaving other input types exposed (such as chemicals, fertiliser and steel) provides an incentive to use fuel intensive systems in preference to chemical intensive farming systems. For a number of years, the cropping sector has been encouraging the development and uptake of minimum tillage cropping systems which have a number of benefits in the farming system. The historic cropping system relied heavily on a tillage based system for seedbed preparation, weed control and moisture accumulation through fallow. While conversion to minimum tillage has been gradual, as a system it is now recognised as being the preferential system in those areas where it is appropriate to apply. This system is recognised as significantly reducing the consumption of fuel in cropping systems but relies more heavily on chemicals for crop husbandry. However in some areas it is a long way from being the predominant system and at least one barrier to farmers moving to this system is the cost of the machinery to make the transition.

With the proposed provisions to reduce the impact of the CPRS on direct fuel costs, this establishes a potential incentive to use fuel as an alternate to chemicals and may be a disincentive to growers considering investing in minimum tillage cropping equipment and systems.

Also with agriculture not being included in the scheme until 2013, some growers may see an opportunity in soil carbon and consider it in their interests to reduce their soil carbon levels in the lead up period through maintaining or reverting to a conventional tillage cropping system to increase their opportunities for carbon soil sequestration under a covered sector regime.

Obviously the level of incentive for each of the above scenarios depends on the price of carbon, but we would not want to see the government encourage such pre-emptive reactions and perverse outcomes from a poorly designed system in relation to cropping.

Another potential perverse outcome is that forestry is proposed to be allowed to “opt in”. This means that under some circumstances, forestry investment groups (particularly related to Managed Investment Schemes) may see it as advantageous to participate in the scheme. While tree planting should generally be encouraged, it needs to be managed to ensure that appropriate outcomes are achieved. This opt in approach could see the forestry sector take over land that otherwise would not engage in this type of land use change as this sector is being provided with an incentive not available to other agricultural pursuits.

The Australian Government is also using the reduction in land clearing relating to State based legislation as a positive measure in our national accounts relating to meeting our Kyoto obligations. This reduction in land clearing in many cases is land that would have been used for increased expansion of the cropping sector. The farmers impacted by this legislation have never been provided with any level of compensation for this loss of opportunity and now it seems they will also be excluded from participating in the carbon credit scheme. The Government should recognise this contribution with the issue of free permits or other financial recognition of this contribution to the national inventory to those farmers who were impacted at the time.

We must ensure that the eventual scheme is a “level playing field” for all land use enterprises and doesn’t create perverse incentives for one land use over another.

Enterprise level emissions

Agriculture as a sector is made up of a myriad of individual enterprises conducted within the farming business unit across Australia. Vast areas are dedicated to extensive livestock production through the arid regions of Australia and also the higher rainfall zones on steeper land gradients.

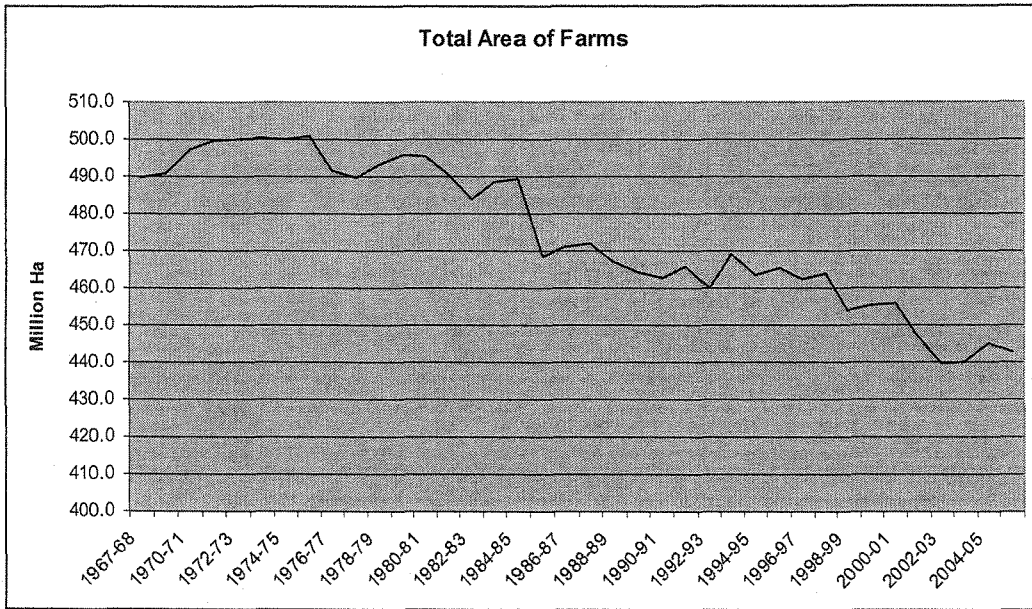
Cropping occurs in the reliable rainfall zones and is usually conducted in conjunction with a mixed farming enterprise. Cropping covers a wide basket of crops and seed products and is generally a component of a rotational system that involves pasture for livestock as well a forage systems and may in some cases be irrigated in whole or part depending on water availability and location of the farm.

This huge variation in the nature of the farming enterprises across Australia give rise to the issues identified in the green paper concerning the complexity of attempting to apply the CPRS at an enterprise level for agriculture.

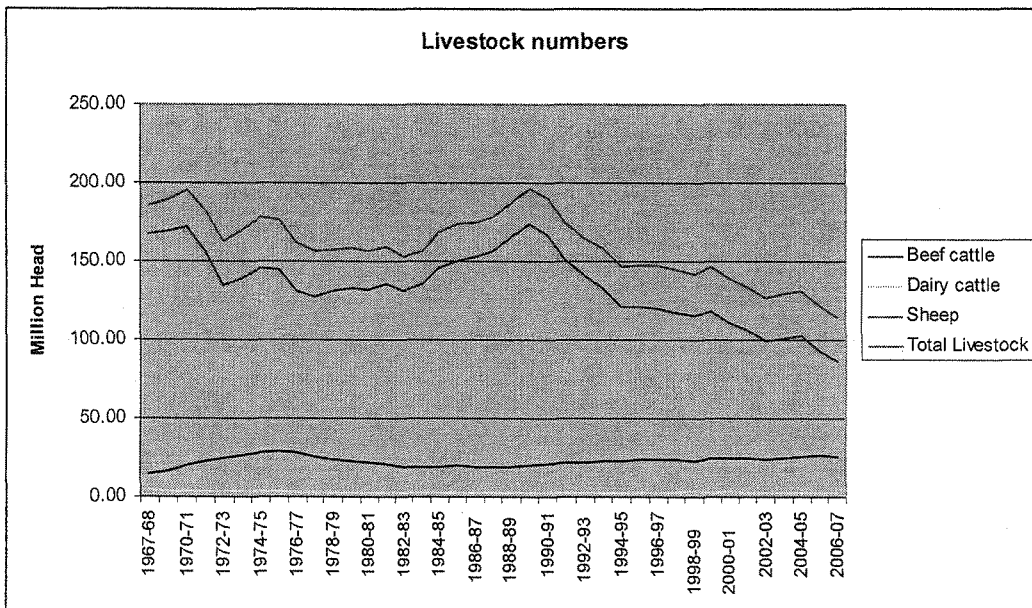
The Government will need to be very careful in the approach it takes so that it doesn’t inadvertently advantage or preference one agricultural enterprise over another, when all are necessary to provide the resilience and flexibility of the farming sector to remain viable and respond to the normal range of market signals.

The design of the current scheme, if applied to agriculture would seem to advantage cropping over livestock, yet healthy, resilient farming systems generally will rely on a pasture phase for improved soil health and other risk management and cost control reasons. So a pasture phase relies on the presence of livestock within the system.

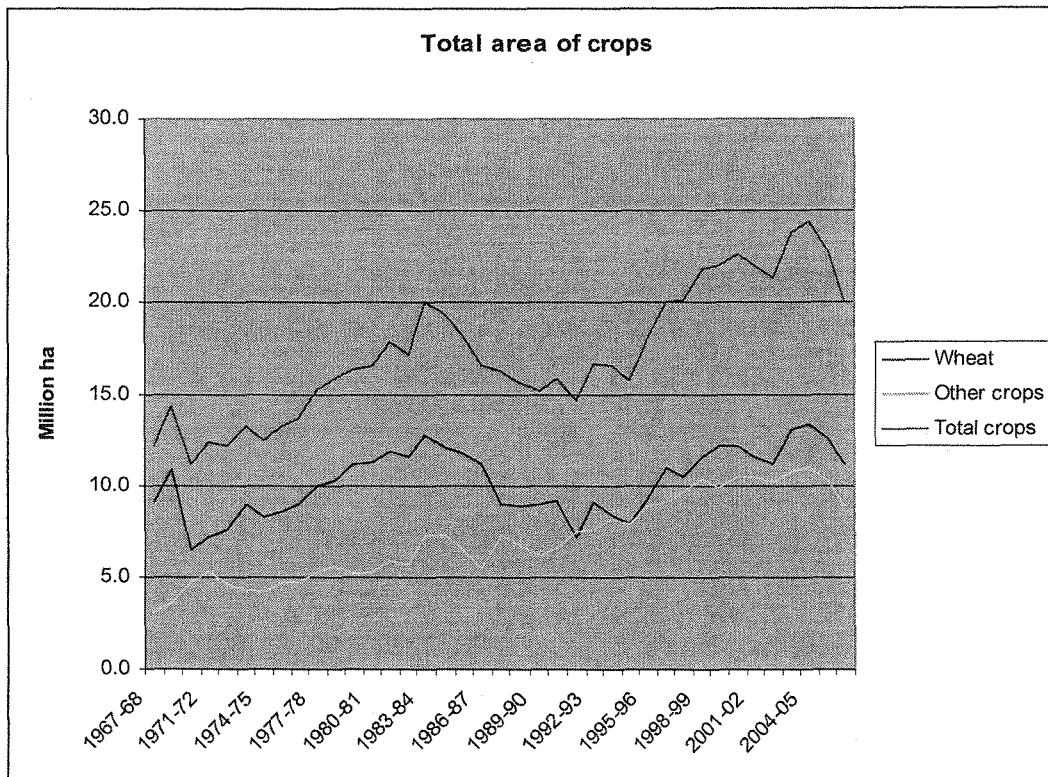
Similarly, increasingly livestock are a very large source of demand for grain as a feedstock. So any scheme that results in reduced competitiveness of livestock will have a potentially adverse impact on the market dynamics for grain.



Source: ABARE Farm land use and livestock numbers in Australia



Source: ABARE Farm land use and livestock numbers in Australia



Source: ABARE Farm land use and livestock numbers in Australia

The graphs above demonstrate the dynamic nature of Australian agriculture showing an overall reduction in the area devoted to agriculture over time, and decreasing livestock numbers and increasing cropping areas.

We would be very concerned if a CPRS resulted in an adverse reaction in the agricultural economy that significantly reduced our capacity to produce food and fibre and participate in international markets.

Policy in isolation

The government needs to consider the total set of issues associated with agriculture and the inherent tension in the proposals within the Green Paper and other current policy issue in respect to agriculture.

An example is water management. At present the Federal and State Governments are implementing the \$10 billion National Water Plan. This plan seeks to improve the efficiency of water use in agriculture as part of the response. In doing so, many of the efficiency measures to improve irrigation rely on the conversion of historic gravity fed, low energy water management systems to piped and pressurised delivery systems. This change will require that the energy and emissions profile of irrigated agriculture increases as a result of these actions. This is in conflict with the aims of the CPRS.

Another example is trade policy where Australia has been relatively effective in negotiating positive outcomes for the Australian economy in an otherwise generally protectionist global trade environment. We would be very concerned if the discussions in relation to a global effort on climate change resulted in increased protectionism and the development of a suite of non tariff trade barriers.

We have also seen a marked depreciation in the transport networks across regional Australia caused by chronic underinvestment in rail infrastructure and cost shifting between the various levels of Government in respect to road funding. Almost all of the agricultural produce in Australia is produced in regional areas and needs to be transported to domestic markets or ports by either road or rail. Rail freight is known to use only 1/7th of the energy of road freight, yet we are rapidly reaching a point where rail services won't be available at all and so all rural commodities will need to be transported by road, thus increasing the greenhouse footprint relative to rail freight. The Melbourne based CERES group recently considered this issue and commented as follows: *"In considering emissions differences across the 4 scenarios, emissions reductions came from moving A-Existing All Road freight to B-Existing Intermodal freight: a 39% reduction."*⁵

It is important that the Government not rely solely on the CPRS but recognize the implications for other areas of policy and also ensure that adequate investment in alternate energy related solutions is also being made.

Food security

The introduction of a CPRS in Australia and similar schemes in other part of the world, if applied to agriculture, will potentially result in a reduction in agricultural production, or at least a significant shift in the component enterprise in response to the relative carbon price impacts.

One potential response from growers to an increase in cost of inputs or the presence of livestock would be to reduce inputs or livestock numbers. Reduction of fertiliser inputs, notwithstanding that improved nutrient efficiency may be possible, could lead to reduced crop and pasture productivity. Similarly, reductions in livestock numbers will reduce the overall availability of meat and milk products.

Such an outcome would place serious pressure on global food supplies and presumably further increase soft commodity prices.

Efficiency Unit values

The Green paper in places refers to measures of efficiency such as per capita, per \$million of economic activity and at least once refers to emissions relative to GDP. We need to use efficiency measures with caution to ensure they don't distract us from the real issue.

⁵ Food Miles in Australia: *A comparison of emissions from road and rail transport*
The Centre for Education and Research in Environmental Strategies,

Global warming and associated climate change are an environmental response to the absolute concentration of CO₂ (and other gasses) in the atmosphere. Thus the global response needs to be to manage the absolute concentration. The efficiency measures are useful tools in considering equity and the efficiency of comparative actions.

However the figures are often used as political instruments which risk us ending up at the wrong answer. For example, it is sometimes quoted that Australia needs to take action because it is a large emitter on a per capita basis as a nation. The reality is that Australia is responsible for about 1% of global emissions in total. The per capita efficiency measure adds 2 variables into the equation and so one response is to maintain emissions but increase population. To demonstrate, if emissions were say 100 units with a population of 10 people, this results in a per capita emissions calculation of 10 units / person. Thus one reaction would be to reduce emissions to say 80 units yet the population remains static, resulting in an improvement in the emissions profile per capita.

However, if the emissions remained static and the population grew to 12 people, then the efficiency measure of 8 units / person is also achieved, however in this case there is no improvement in absolute emissions.

Similarly the percentage of GDP relationship allows for expansion of emissions so long as GDP is increasing faster than emissions.

We need to ensure that the main aim of the CPRS is to reduce the absolute global concentration of CO₂ and other gasses and not be captured by relative efficiency measures.

Capacity

The Government's preferred position is to include agriculture in the scheme subject to a decision in 2013. It is important that if this position is accepted, that the Government devote sufficient resources to consider and understand the implications for our sector. We note that the Government has already committed \$500 million to research industrial carbon capture and storage. Agriculture is a solar powered, renewable, carbon cycling industry that already has available technology that can assist with this issue – these are called plants and soil. We would welcome a similar commitment from the government to investigating emissions reduction activities for farms that can maintain and increase productivity.

The Federal Government has recently reduced funding to the CSIRO and State Government's have for years been underinvesting in their respective Departments of Agriculture. It is essential that the Government invest in both the human capital and collateral supporting research efforts at all levels including extension capacity to ensure that research results are available across the agricultural sector.

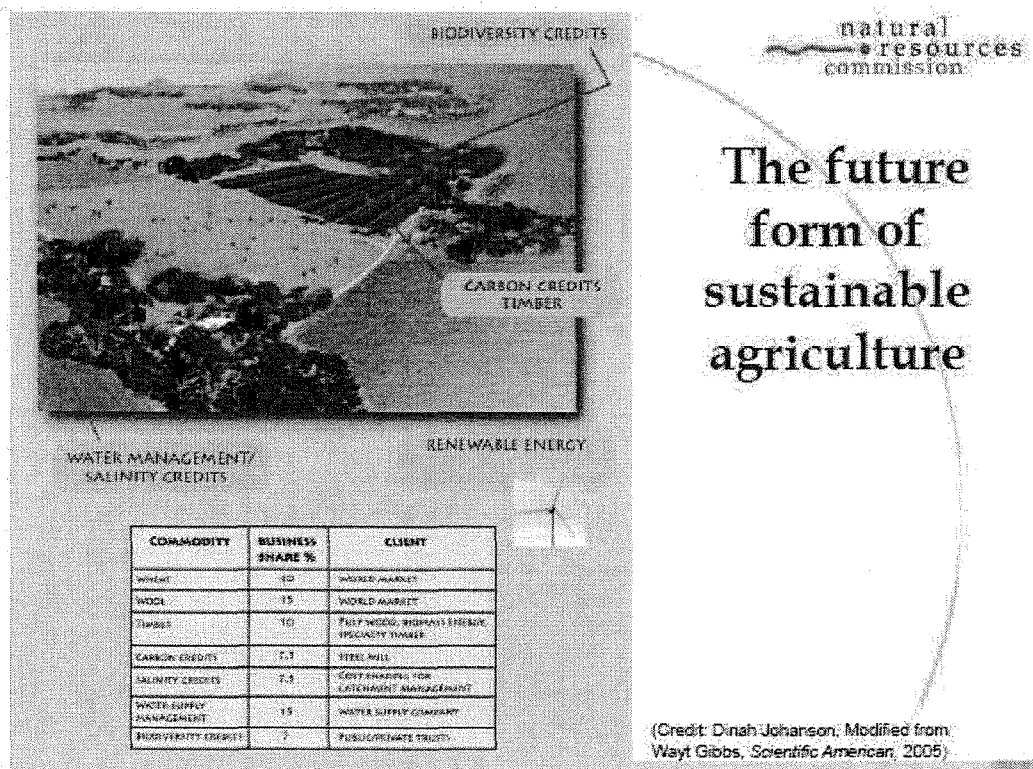
An alternative proposal

Agriculture is a solar powered, renewable, carbon cycling industry which has the potential to provide many solutions to greenhouse gas management as well as continuing to play an important role in the national and international economy.

Climate change should provide the impetus for us to be investing in and developing new farming systems that will be responsive to the changing climate as well as continuing to provide economic opportunity to both farmers and regional Australia.

We must take this opportunity to consider how we can maintain current productivity and in fact make productivity improvements as well as addressing the imperatives of climate change management. We need to consider how we can structure viable economic opportunities for rural Australia through best use of our natural advantages of plentiful resources such as wind and solar energy.

Dr John Williams, the NSW Natural Resources Commissioner presented the following slide to the Agriculture Australia conference in July 2008, which provides a succinct view of a potential future low carbon farming system.



This type of approach which integrates precision agriculture to ensure that the productive areas for traditional agriculture are maximised and the less productive areas are utilised for land use change and economic gain through the provision of environmental services and diffuse renewable energy generation should be pursued with much vigour.

Agriculture should be encouraged to participate in the national effort to reduce greenhouse gas emissions through a balance sheet approach which considers both the emissions and sequestration from biological systems. Agriculture should be able to provide offsets to the covered sector and other participants in voluntary markets. We believe that the approach developed by the Chicago Climate Exchange offers a potentially workable mechanism for the development of an internationally acceptable market based system for agricultural emissions management.

The system that has already been developed by the Chicago Climate Exchange is⁶:

- **CCX's integrated greenhouse gas (GHG) reduction and trading system includes a full portfolio of offset projects. CCX issues tradable Carbon Financial Instrument® (CFI®) contracts to owners or aggregators of eligible projects on the basis of sequestration, destruction or reduction of GHG emissions.**
- All CCX offsets are issued on a retrospective basis, with the CFI vintage applying to the program year in which the GHG reduction took place. Projects must undergo third party verification by a CCX approved verifier. All verification reports are then inspected for completeness by the Financial Industry Regulatory Authority (FINRA, formerly NASD).
- Offset projects can be registered by Members, Offset Providers and Offset Aggregators. Offset Providers and Offset Aggregators do not have significant GHG emissions. Entities that have significant GHG emissions are eligible to submit offset project proposals only if they have committed to commit their own emissions to the CCX Emission Reduction Schedule as Members. Offset projects involving less than 10,000 metric of CO₂ equivalent per year should be registered and sold through an Offset Aggregator. The terms of the business and legal relationships between aggregators and offset project owners are left to the discretion of those parties.
- CCX has developed standardized rules for issuing CFI contracts for the following types of projects:
 - Agricultural methane
 - Coal mine methane
 - Landfill methane
 - Agricultural soil carbon
 - Rangeland soil carbon management
 - Forestry
 - Renewable energy
 - Ozone depleting substance destruction
 - Other project types, to be approved on a project-by-project basis, may include:
 - Energy efficiency and fuel switching
 - Clean Development Mechanism (CDM) eligible projects

⁶ www.chicagoclimatex.com

The CCX has also developed the European Climate Exchange (ECX)

The European Climate Exchange (ECX) manages the marketing and product development for ECX Carbon Financial Instruments (ECX CFIs), listed and admitted to trading on the ICE Futures Europe's electronic platform. ECX / ICE Futures Europe is the most liquid platform for carbon emissions trading, attracting over 85% of the exchange-traded volume in the European carbon market. ECX CFI Contract includes standardised futures and options based on EU Allowances (EUAs) and Certified Emission Reductions (CERs).

One company in Australia has already developed the Australian Climate Exchange to facilitate the trading of certain carbon related products in Australia; however none of these are agricultural activities. The aim of the ACX (Australian Climate Exchange <http://www.climateexchange.com.au/>) is to provide a trusted marketplace where business can buy emissions commodities with confidence in the quality and origin of the products being sold. The Electronic Emissions Trading Platform is supported by a robust Registry and product listing process. This framework provides transparency by tracking an offset from its generation & verification through to its transfer & eventual retirement.

These voluntary approaches provide an existing mechanism for agriculture to participate in the national effort and gain reward for actions in reducing greenhouse emissions.