

**Little River
Catchment Area:**

- Cumnock
- Baldry
- Yeoval
- Obley
- Arthurville
- Curra Creek
- Suntop

Gaurnet Response, January 2008

Issues Paper 1

Climate Change: Land use - Agriculture and Forestry

With the ratification of the Kyoto Protocols by the Australian government it is imperative that with any Emission Trading Systems the recognition that 'Australia' has received in meeting emission targets, should be accredited to those responsible. It is important to recognise this contribution in the International Market. Acknowledgment must also be given to the agricultural industry for the financial and social credit it has already contributed to enabling Australia to reduce its global emission targets, specifically land use changes since 1990. This also applies to individuals that have been on the cutting edge in the development of carbon storage systems (i.e. those that have implemented a change to "best" practice, post 1990).

With continuous pressure on the available area of land to meet the demand for global food production, soil carbon sequestration has massive advantages over forestry systems. The benefit of implementing soil sequestration versus forestry is illustrated by considering the huge area of agricultural land that is;

- a) not suitable for forestry carbon systems,
- b) continues to be prime agricultural land,
- c) showing improved soil health characteristics while remaining productive,
- d) Fire risk is a greatly reduced with soil sequestration, with only short term losses (one year of biomass), were a forestry system may lose twenty to thirty years of stored carbon.

Forestry will also create benefits and opportunities for Agriculture such as water table reduction, wind breaks, stewardship programs and wildlife preservation but offers no real benefits over soil.

In order for agriculture to participate in the challenges of climate change, soil carbon sequestration needs to be included in the international protocols to gain global acceptance from the wider community.

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Winner of the 2005 State Alcoa Landcare Award
Winner of the 2007 Champions of the Catchment

Submission to 'GARNAUT REPORT, ISSUES PAPER 1'

Climate change: Land Use – Agriculture and Forestry.

**The discussion points of each question raised have been addressed in sequential order as they appeared in the paper.*

3.1 Adaptation in the agricultural and forestry sectors

3.1.1 The adaptation challenges may be addressed in several ways:-

- Encouraging all emitters, to understand and contribute to 'off setting' measures. Agriculture may be a large emitter, but the products from agriculture are essential to everyday living (regardless of the country). It is theoretically possible for agricultural land to have high production and also sequester carbon at the same time, which is completely different from other emitting industries.
- Develop info packs or extension programs that succinctly describe the benefits of a Carbon Farming system (groundcover, water cycle and mineral cycle) and providing step by step processes for geographic locations.
- Utilising existing structures (DPI, CMA's, Landcare, NGO Natural Resource Management organisations), to facilitate funding, support, and R&D. Local community based organisations have greater opportunities to understand local issues, and give ownership of research and extension.
- Showcase successful 'Carbon Cockies' (landholders who are openly and actively using carbon farming systems in a profitable way), and scrutinise their practices.
- Encouraging 'inkind' contributions from land holders, to leverage implementation dollars. Giving accurate information on the cost of sequestration.

3.1.2 Factors affecting the implementation of adaptation measures:-

- That adaptation is not restricted to set protocols, that 'adaptation' is in fact a measurable goal. Thus allowing land holders to adopt favourable practices to themselves and geographic area.
- Adverse conditions during implementation will need flexible contracts to allow for practical solutions and development of manageable projects i.e. natural disasters such as bushfires and drought
- Australian agriculture leads the world in development, adaptation and evolution of better grazing and farming systems to cope with variable climatic conditions. Implementation maybe hindered by the lack of current research and data information, correlating to the local Australian environment.

3.1.3 Responsibilities should be shared with adaptation:-

- Assuming that agricultural land will be a carbon sink, for more than the landholder emissions, responsibility therefore should be shouldered throughout the entire community.
- Policy makers bear a strong responsibility to make decisions based on economic rational, rather than political and social agendas i.e. wide scale adoption is reliant on economic feasibility (cost of forest carbon versus other potential sequestration systems).

3.2 Mitigation options for agriculture and forestry

3.2.1 Short term mitigation:-

- Soil carbon sequestration grazing practices are the most practical, inexpensive and quickest way to mitigate emissions.
- Promoting improved grazing management systems.

- Promoting and encouraging No-till farming and stubble retention.
- Promoting 'Pasture Cropping', techniques to enhance sequestering and minimising carbon release.
- Rather than using actual soil carbon measurement, use proven 'Best Management Practices' as proxies for carbon storage. These proxies have the potential to be linked with other environmental outcomes (biodiversity, salinity, water quality, vegetation and soil health) providing much greater value for the investment.
- Validation of CO₂ equivalents to be scrutinised and tested under Australian conditions e.g. Methane production from ruminants in relation to changes of environment and region, nitrous oxide emission under minimum tillage farming systems.
- Placing a value on 'carbon recycling' for Agricultural produce.
- Strong possibilities exist for agriculture to reach a position of neutral carbon emissions by quantifying the amount of recycling/sequestering of carbon in agriculture systems.

3.2.2 Incentives / Policy Innovations /Market Based Mechanism:-

- Two tiered ETS/Carbon Credits
 - Proxies/models that allow landholders to receive credits for approximated beneficial management practices (No-till/minimum tillage, improvement of grazing systems etc)
 - Actual measured changes, to receive full credit.
 - Smaller amount of credit will be paid for the less effective management systems.
- Short term contracts are necessary to ensure that exclusions do not exist in relation to time constraints i.e. ninety nine year contracts for forestry systems. Maximum participation will be achieved through short term contracts. In main stream agriculture examination will demonstrate that programs with contractual periods longer than 10 years, are difficult to manage and to engage landholders.
- Reduced liability in adverse conditions, (natural disasters, drought etc).
- 150% depreciation or accelerated depreciation on No-till equipment.
- Tax incentives on approved agriculture practice e.g. developing water supplies for improved grazing management systems.
- Ameliorants grants to increase soil fertility.
- Continued Government financial support (incentives, MBI's - market based instruments, priority targeting) for environmental outcomes.
- Opportunities exist for voluntary inclusion for ETS and mitigation, using a system of graduation making reference to dot point 5 in 3.2.1
- Farmer owned aggregators to minimise 'middle men'. This will ensure that maximum benefit is given to those storing the carbon.
- Developing technologies that improve the cost efficiency of measuring soil carbon.
- By-products of agriculture should also be considered (skins, wool, bones etc).

3.2.4 It is critical to conduct studies into the cost of agriculture entering into an ETS at a later stage when all the credits have been issued. This is an important part of determining what the complications and limitations of an ETS may be; and the benefits of being or not being included in an ETS. It may be cost prohibitive to enter into an ETS, but it may be more cost prohibitive to be forced into an ETS. It is imperative that soil carbon sequestration be included in any ETS.

3.2.5 Agriculture could be considered under a voluntary domestic system to include multiple benefit outcomes including environmental outcomes separate to an international trading scheme.

3.2.7 Soil sequestration will create several beneficial factors for Agriculture: greater ground cover, greater water use efficiency, greater mineral cycle, reduced inputs, greater perenniality and minimise erosion. Soil carbon sequestration offers many advantages over forestry. This advantage that soil carbon sequestration systems over forestry systems offers is that land can still maintain productivity for purposes other than carbon. Land dedicated to forest sequestration is limited and locked away in perpetuity with little other opportunity for production.

Forestry will create some benefits and opportunities for Agriculture in water table reduction, wind breaks, stewardship programs and wildlife preservation.

3.2.8

- See adaptation 3.1.1 and mitigation 3.2.1 dot point 3

3.3 Practical considerations for including agriculture and forestry in emissions trading scheme

3.3.5 Proxies:-

- Management systems - No-Till, % groundcover, grazing systems, pasture cropping.
- Short term contracts.

3.3.7 Monitoring should be based on statistically rigorous procedures, allow the minimum testing that will be continually representative, that is specific to the sector or sub sector in question, otherwise 'Proxies' need to be developed based on proven carbon management systems.

3.3.8 If Agriculture is included into an ETS, then the benefit that 'Australia' has gained from the changes in land use (that allowed us to meet our Kyoto levels) need to be recognised and at least given to the industry if not the affected land holders.

3.4 Recognition of carbon sinks and offsets

3.4.1 Carbon sink and Mitigation measures:-

- As a priority soil carbon sequestration needs to be included based on political, social, financial and environmental outcomes, utilising the large area of land that is available in Australia. While still maintaining productivity and combining the capability of soil as a storage vessel for carbon.
- Agro-Forestry
- Proxies

3.4.3 No. Off-sets should be suited to Australian conditions and acceptable to the domestic market, but they must be able to be correlated against international practices. Proxies should also be included as a means of early adoption and will have significant impact on emission off sets in the short term. The proxy system could also be used as a stepping stone for future development of longer term globally acceptable protocols.