

# Changing Climate - Changing Farming?

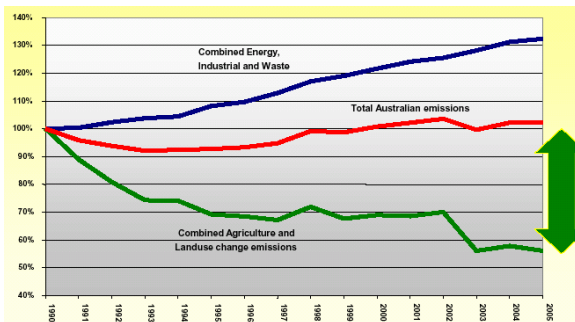
By Laura Tweddle

Recently, Kim Brister and I attended a workshop on climate change and how it will affect farming in the future. We thought it would be an opportunity to hear some credible and moderated views, rather than some of the hype you find through many media outlets. Gippsland agriculture alone represents \$120 million per month of farm-gate value, a valuable local economy which is worth protecting.

Lets get some facts out in the open, on what we are actually talking about:

## Changes in Weather.....

It should be clearly stated that when speaking of climate change and global warming scientists are referring to **changes in surface temperature and greenhouse gas levels in the upper atmosphere**, not rainfall variability. Rainfall patterns have gradually changed (increased number of *el nino* events) but are not attributed as a clear or definite known cause/effect of climate change.



Source: Australia's Independent Farm Policy Research Institute.

## Greenhouse Gases.....

The gases involved in greenhouse gas emissions are:

- o **CO<sub>2</sub>** – Carbon Dioxide – has a 100 year life in the atmosphere and is currently increasing surface temperatures by 0.2°C per decade.
- o **CH<sub>4</sub>** – Methane – has an 8-10 year life in the atmosphere, but a very strong warming effect. Two-thirds of agriculture's emissions come from this gas. The beef industry contribute 65%, followed by sheep 23% and dairy 11%.
- o **N<sub>2</sub>O** – Nitrous Oxide – has very low emissions from agriculture, but a very high warming effect. Urine is a source, but it is created mostly in waterlogged soils with surplus Nitrogen present.

- **Since 2001 Australian Agriculture has dropped between 20-55% of their emissions from 1990 levels.**
- **Agriculture has received no credit for this reduction in emissions.**
- **It is these decreases that have allowed Australia to stay on target for Kyoto ratification.**

## Emissions Trading Schemes (ETS).....

The start date for any Carbon stock-takes in Australia's ETS was June 3, 2007 with the scheme set to take effect in 2010. It will include 900 of the largest emitters and take stock of the Carbon released each year. It is estimated Carbon will be worth \$20-70 per tonne. This means any good work carried out by farmers / industry before this date will not count as an offset or credit in the system. Initially, agriculture will not be included in the scheme.

### Where to from here ??

Without agriculture's reduction in emissions over the past century, Australia would not be meeting current Kyoto targets. Yet there are no plans for formal recognition of this effort in the national trading scheme.

#### Action

- Lobby your local government to ensure our farming industries get the recognition they deserve for reducing carbon emissions.
- Ensure any model that accounts for carbon credits in farming is fair and equitable and designed specifically for agriculture.
- Hold onto Assets. Be aware not to sell off all our Carbon Credits, that we may need to offset our own liabilities in the future.
- Tree Plantations – we can't eat trees !! If these Carbon offsets continue to take up valuable agricultural land, food shortages may become a

### Future Plan for Agriculture in an ETS:

#### Included in Scheme

- Carbon released as methane from cattle production → 5 tonne C / Ha
- New tree plantations → 5-30 tonne C / Ha

#### Not Included in Scheme

- Carbon trapped in animals sold off farm ← 1.7 tonne C / Ha
- CO<sub>2</sub> fixed from atmosphere in plants ← 22 tonne C / Ha
- CO<sub>2</sub> fixed from atmosphere in soil ← 1 tonne C / Ha
- Existing Forestation, Tree Belts ← 5-30 tonne C / Ha
- Soil Microbial Release of Carbon → ??

To assess the emission levels from your farm, visit [www.greenhouse.unimelb.edu.au](http://www.greenhouse.unimelb.edu.au) for online calculators.