# Building Farmer & Advisor Knowledge in Carbon Farming

*The Carbon Farming Knowledge Project involves a series of workshops to increase the understanding of 30 independent agricultural advisers in south-east Australia on reducing greenhouse gas emissions, carbon in farming systems and the Emissions Reduction Fund – where farmers can earn credits for storing carbon or reducing greenhouse gas emissions on their properties. The project helps advisors prepare their clients for potential environmental, economic and social benefits of future carbon management policy.*

## Summary of Session 3: Emissions Reduction Fund (ERF) and the future for carbon trading

*Summary of March 2015 workshop presentation by Richard Eckard, University of Melbourne and the Primary Industries Climate Challenges Centre*

### Background

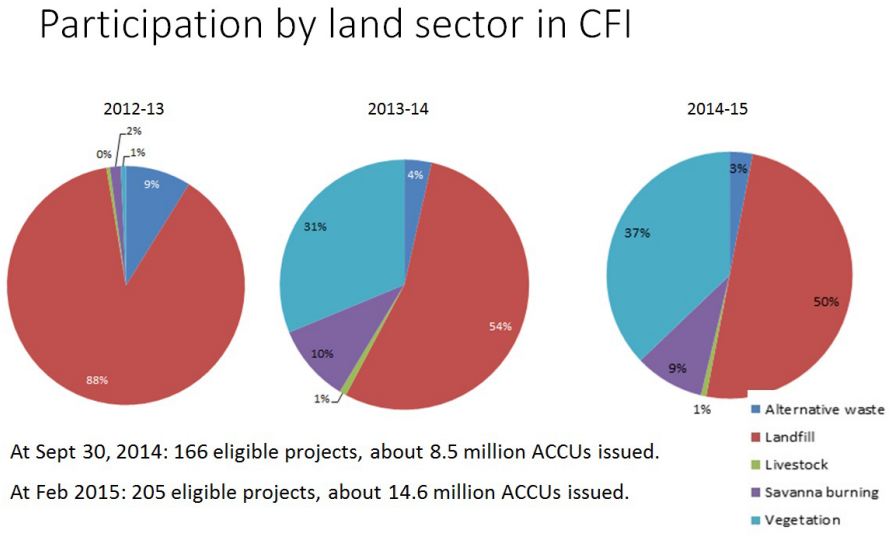
The carbon trading landscape changed at the end of 2014 with the introduction of the Emissions Reduction Fund (ERF), replacing the Carbon Farming Initiative (CFI). Landholders can still receive carbon credits for reducing emissions from agriculture and land use and increasing the carbon stored in soils and vegetation. Individuals and businesses can buy CFI credits to offset their emissions. Participation is voluntary.

### The new ERF

Under the ERF, the Commonwealth Government has become the buyer of Australian Carbon Credit Units (ACCUs). Under the old CFI system, companies had to either pay the carbon tax or buy carbon credits to offset emissions. The ERF will conduct 'blind' reverse auctions through AusTender a number of times a year. There is $2.55 billion in the fund to buy ACCUs over five years.

The first auction was held on April 15 and 16 where 107 carbon abatement contracts covering 47 million tonnes of carbon dioxide emitted were purchased at an average price of $13.95/t. These were signed with 43 contractors covering 144 projects, the largest sequestering 3.5Mt $CO_2e$ down to the smallest at 12,000t. The total value of the contracts was $660 million, or about 25% of the government's total budget.

The ERF has three key elements when it comes to emissions reductions. It credits reductions through government-approved methods requiring a practice change from participants. It purchases emissions reductions earned in the form of ACCUs. Remembering that ACCUs are like a share certificates in that they do not have value in the marketplace until they are traded. Participants need to enter into a Carbon Abatement Contract at a reverse auction where the quantity, price and delivery schedule for ACCUs is set. The third element is the safeguard mechanism for emissions reductions. This element is yet to be fully explained however it will ensure that emissions reductions purchased by the Government are not offset by significant rises in emissions elsewhere in the economy.




**Source: Richard Eckard, Primary Industries Climate Challenges Centre*

## Uptake of methods

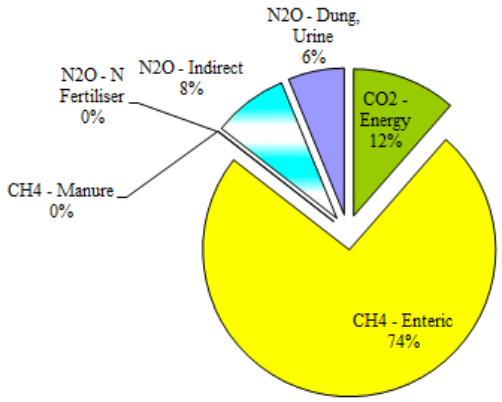
There are a number of land sector ERF/CFI methods approved to date (June 2015) including:

- Agriculture, 7 approved projects, with 101, 212 ACCUs issued.
- Savanna burning, 34 approved projects, with 1.33 million ACCUs issued.
- Vegetation, 82 projects, with 5.41 million ACCUs issued.
- Landfill, 82 projects, with 7.74 million ACCUs issued.

## Implications for agriculture

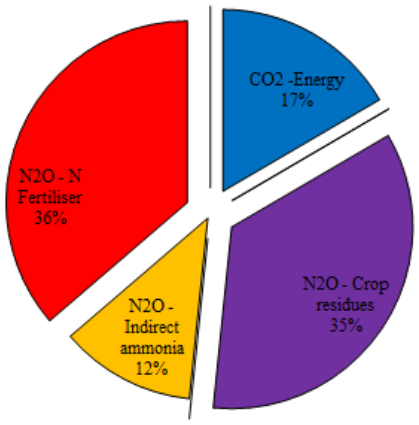
**Emissions from self-replacing wool farm**

Greenhouse gas/ha = 1.2 t $CO_2e$/ha
Greenhouse gas/DSE = 0.20 t $CO_2e$/DSE
**What would it take to offset: 90ha trees for every 500ha pasture**




**Emissions from wheat/canola rotation**

Greenhouse gas/ha = 0.19 t $CO_2e$/ha
Greenhouse gas/t = 0.07 t $CO_2e$/t grain
**What it would take to offset: 70ha trees for every 2500ha crop**




Referring to the diagrams above, the main emissions in a cropping system come from N fertiliser use (36%), residues (35%), diesel and energy use (17%), and leaching and volatilisation (12%). In a livestock system, enteric methane accounts for 78%, diesel and energy 12%, manure and urine 7% and leaching and volatilisation 3%.

Opportunities for broadacre farmers are limited in the ERF at present. Several issues contribute to this including that the ACCU prices may not be a strong incentive for involvement and the minimum bid size at auction is 2000t per year which for most land sector projects is not achievable so aggregation will be required. However, research is ongoing and is expected to deliver cost-effective options for the future.

PICCC anticipates there will be international and domestic prices on carbon and binding limits on emissions at some stage in the future, so there will be carbon trading in some form. Carbon footprints will be used in trade as a marketing and sales incentive, such as the European Union might import GM-free canola from WA for biodiesel.

It is expected that emissions from agriculture will be either covered in policy eventually or will gradually become a bigger percentage of Australians total emissions. As bigger industrial emitters reduce their emissions, agricultural emissions will become more significant and more focus will be placed on them. An effective carbon price of more than

### What is PICCC?

The Primary Industries Climate Challenges Centre (PICCC) is a joint venture of the University of Melbourne and the Department of Economic Development, Jobs, Transport and Resources Victoria (formerly DEPI).

It was launched in February 2011 to boost capacity in research, development and extension in addressing the impacts of a changing climate as well as adaptation and mitigation.

PICCC's focus is on the production, environmental, policy and social issues as well as the need for new knowledge to ensure primary industries are well placed to respond to challenges and opportunities.

More information at http://piccc.org.au/

# Building Farmer & Advisor Knowledge in Carbon Farming

$100/t may be reached in the future, perhaps in the next 10-15 years. This will have implications for diesel and urea prices.

Future discussion for agriculture is likely to focus on intensity of emissions. But it will need to be considered how a growing world population is to be fed if total emissions are to be reduced.

**Useful resources**

Emissions Reduction Fund - www.environment.gov.au/climate-change/emissions-reduction-fund
The National Greenhouse Gas Inventory – http://ageis.climatechange.gov.au/
Building Farmer and Advisor Knowledge in Carbon Farming Project – www.carbonfarmingknowledge.com.au
Greenhouse in Agriculture - www.greenhouse.unimelb.edu.au

**More information:** Richard Eckard, 03 9035 8265, richard.eckard@unimelb.edu.au

*This project is supported with funding from the Australian Government*