

The New Zealand emissions trading scheme is part of the government's response to climate change. Emissions trading will help reduce emissions, encourage and support global action on climate change, and help put New Zealand on a path to sustainability.

This factsheet explains how emissions trading will affect the agricultural sector.

# Agriculture in the emissions trading scheme

Factsheet 21



September 2008

## Greenhouse gas emissions from agriculture

New Zealand's biologically-based economy relies on a temperate and stable climate for production and, therefore, action on climate change – here and internationally – is crucial for New Zealand's long-term economic, social and environmental well-being.

The agriculture sector is the largest single source of greenhouse gas emissions in New Zealand, making up approximately 49 percent of our total emissions. Emissions in the sector are continuing to grow.

The term 'agriculture emissions' refers to the non-carbon dioxide (CO<sub>2</sub>) greenhouse gas emissions from agricultural production. These consist of methane from livestock (approximately two-thirds), and nitrous oxide from animal excrement, and the use of nitrogen fertiliser (the remaining one-third).

## What agricultural activities will the emissions trading scheme cover?

The emissions trading scheme will cover all the major agricultural sources of methane and nitrous oxide, such as methane from ruminant animals and nitrous oxide from nitrogen fertiliser used on pasture.

## When does agriculture enter the emissions trading scheme?

Under its Memorandum of Understanding with the agricultural sector, entered into in October 2003, the government agreed that it would bear the cost of the agricultural sector's non-carbon dioxide emissions during the first commitment period (2008–2012) of the Kyoto Protocol, provided the sector contributes to research into ways to reduce greenhouse gas emissions from agricultural activities. The aim of that research is to deliver safe, cost-effective

abatement technologies that will lower total ruminant methane and nitrous oxide emissions. The research is being coordinated through the Pastoral Greenhouse Gas Research Consortium.

All agricultural gases will be included in the emissions trading scheme on 1 January 2013 and there will be no other price-based measures in the meantime. However, agricultural sector participants in the scheme are required to begin monitoring their emissions before 2013 to ensure the relevant monitoring and reporting systems are working properly. Participants can voluntarily report their emissions from 1 January 2011 and will be required to report their emissions from 1 January 2012.

The government will work with the farming sector to identify opportunities for reducing emissions before 2013.

## How does agriculture participate in the emissions trading scheme?

The amended Climate Change Response Act 2002 currently makes processing companies, not individual farmers, responsible for participating in the scheme. This would mean fertiliser manufacturers, dairy processors, and meat processors would participate.

An alternative approach would be to give the responsibility to participate to individual farmers. This would lead to higher compliance costs for farmers and the agricultural sector as a whole, but would improve the incentives for farmers to reduce emissions.

The final decision about who will participate in the emissions trading scheme must be made by 30 June 2010. If processing companies become the mandatory participants in the scheme, there may be an option for farmers to opt in so they can take direct responsibility for the emissions from their farms.

## Potential impacts of an emissions trading scheme on the agricultural sector

The agricultural sector will begin to face the costs of greenhouse gas emissions in 2010 when the stationary energy sector enters the emissions trading scheme and in 2011 when the liquid fossil fuels sector enters the scheme. When these sectors enter the scheme, farmers will face higher prices for electricity and transport fuels. More information about the entry of these sectors can be found in Factsheets 18 and 19.

In 2013, farmers will face costs from their non-CO<sub>2</sub> agricultural emissions. Over time, the government expects to see changes in the amount of land used for agriculture relative to other uses such as forestry, and in the type and intensity of agricultural operations. It also expects to see improvements in farming efficiency, increased tree planting, more efficient use of nitrogen fertiliser, increased use of nitrification inhibitors, and more effective management of animal waste.

The emissions trading scheme will increase costs for the agricultural sector, but much of this effect will be offset by the government giving free units to the sector in the early phases of the scheme. Ongoing reductions in the level of emissions for every unit of agricultural output will also help to reduce this impact.

### Will the agricultural sector receive a free allocation of emission units?

Yes. The government has identified three possible options for giving out free emission units. It could give them to:

- > individual farmers
- > companies and processors dealing with farm produce
- > farming industry organisations that would manage emission units on behalf of farmers.

Whichever option is chosen, the aim will be to ensure the benefits of the free allocation of emission units ultimately go to farmers, not the companies and processors, because it is farmers who are expected to face most of the impacts of the emissions trading scheme.

### Other government climate change initiatives relevant to agriculture

Emissions trading is part of a wider government package of policies to tackle climate change in New Zealand's land management sectors.

The government is working in partnership with stakeholders and Māori in the agricultural and forestry sectors to put in place a Plan of Action for Sustainable Land Management and Climate Change. This package includes helping farmers, growers, foresters and other businesses in the land management sectors to develop the skills, knowledge, technology and management techniques to reduce their emissions, adapt to climate change, and pursue business opportunities.

The government is also working to develop a Heads of Agreement with the dairy and fertiliser industries to investigate and apply measures to significantly reduce nitrous oxide emissions in the dairy sector over the next five years. This would involve a significant new research, demonstration and communication programme to help prepare the dairy sector for the emissions trading scheme in 2013. The programme would seek to drive a substantial increase in uptake of new and existing technologies and practices to reduce nitrous oxide emissions and nitrate losses over the next five years.

There is a clear role for a strong agricultural research effort aimed at reducing the carbon footprint of New Zealand's agricultural industry and the government is investing through a number of channels. The government is currently investing approximately \$2.5 million a year in this research through the Pastoral Greenhouse Gas Research Consortium. This amount is matched by the equivalent in industry funds. The research is being carried out by Crown Research Institutes and universities. In addition, the government is spending \$6 million in 2008/09, increasing to \$10 million in 2010/11 under the Plan of Action on Research into Mitigation, Adaptation and Business Opportunities in Agriculture and Forestry. In 2007 the government also introduced research and development tax credits that will encourage greater levels of agricultural research as well.

New Zealand Fast Forward (NZFF) is a unique partnership between the pastoral, food and related industries and the government. It will make collaborative targeted investments in pastoral and food innovation to drive transformational change. The government has committed \$700 million for investment over 10–15 years. Industry is expected to match this investment over the same timeframe – making an estimated total investment of \$1.2 billion.

## Where to go for more information

For more information on the government's climate change work, including more information about the emissions trading scheme, visit [www.climatechange.govt.nz](http://www.climatechange.govt.nz) or call 0800 CLIMATE (0800 254 628).