

Agricultural Processors and Changing Climates Views on Policy, Emissions Trading and Mitigation

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The Issue

New Zealand is the first country in the world to require agriculture to participate in a comprehensive emissions trading scheme (ETS), in large part because 47% of New Zealand's greenhouse gas (GHG) emissions are from agriculture. At the same time, agriculture is an important industry in New Zealand, contributing annually more than \$21 billion to the economy. As currently designed, the ETS requires that agricultural processors (i.e. dairy processors, meat slaughter facilities, nitrogen fertilizer production facilities, animal exporters and egg producers) will record and report the greenhouse gas (GHG) emissions associated with the agricultural products they handle. These GHG emissions are calculated using an emission factor for the product type and are applied to each processor based on the total amount of product they process.

Under the ETS beginning in 2015, agriculture may begin paying for the GHG emissions associated with their products at a discounted level. Over time, the agricultural sector will be responsible for an increasing percentage of their emissions until they report and pay for all emissions associated with the GHG calculations. This research aims to understand how the ETS may influence agricultural decisionmaking and behavior at the farm and processor level, the adoption of practices to reduce GHG emissions, and perspectives of climate change and the ETS.

Key Findings

- A significant majority of processors believe that individual farmers, not processors, should be the "point of obligation" responsible for reporting and paying for their GHG emissions.
- Agricultural processors have already experienced a rise in costs associated with the transport and energy sectors inclusion in the ETS.
- Processors will have varying capacity to deal with the added cost of the ETS- some processors may pass on these costs to farmers or consumers while others feel they must internalize the costs.
- Many processors have undertaken innovative practices to reduce their GHG emissions including energy audits, life-cycle analyses, composting and recycling initiatives and the use of alternative energies.
- There is a general concern from processors that agriculture's inclusion in the ETS will affect their ability to compete in international markets.
- Many processors feel that there are limited mitigation options available to the agriculture industry to reduce their GHG emissions under the ETS and receive credit.

Policy & Management Implications

The ETS has many potential impacts for the New Zealand agricultural industry as well as global agriculture GHG emissions. There is the potential for the ETS to have economic, social and biophysical impacts on the New Zealand agricultural industry. Assessing these potential and perceived impacts is crucial for understanding how the policy could be adapted to ensure that it achieves its desired outcome to change behavior towards activities that reduce GHG emissions. Processors also have the potential to influence on farm decisionmaking and management practices through the ETS structure.

Methodology

Interviews with 17 agricultural processors were conducted in July-September of 2010. Interviewees were obtained through their public comment submissions to the government on the ETS, through AgResearch contacts, or through the snowball effect where interviewees suggested other contacts. A diversity of agricultural processors were interviewed including at least one from each of the five ETS processor categories, across agricultural sectors and of various sizes (Table 1). Interviews lasted between 45 minutes and 90 minutes. All interviews were transcribed and analyzed through coding methods.

Table 1. Total Number and Industry Types Interviewed

Processor Point of Obligation	Industry Type	Total Interviewed
Animal Exporter	Animal Exporter	1
Milk or Colostrum	Cow, Goat	5
Meat	Deer, Pork, Sheep, Beef, Chicken	8
Fertilizer	Importers and Manufacturers	2
Egg Producers	Egg Producers	1

Detailed Results

Responsibility

Largely processors expressed that they felt the debate about whether climate change is real was not relevant. Instead, it was necessary to recognize that policies were being developed and it was important for agriculture to contribute to the policymaking process. Most processors felt that agriculture should be excluded from an ETS until other countries adopted similar policies in order to protect their economic interests. In total all but one processor felt that the responsibility for dealing with emissions should be at the farm level. There was a general feeling that processors have fairly limited capacity to influence on-farm behavior change- where most mitigation efforts will

"It doesn't matter if people think climate change is real. We put that aside. We need to deal with the policy."

need to occur. As a result, putting the point of obligation directly with farmers would send a more direct signal for behavior change.

Impacts

Processors have already experienced several impacts from the rise in costs associated with petrol and energy that began in 2010. Many processors had already undertaken innovative practices to adapt to these costs including the use of biodiesel or renewable energies, composting and recycling, energy audits and emissions footprinting. Impacts that may result from the ETS tended to vary based on the processor type (Table 2). As well, the ability of processors to pass on the costs associated with ETS impacts varied across sectors. Many cooperative processors (dairy, fertilizer) indicated that the costs could be passed directly onto farmers. In contrast, meat processors (sheep, beef, deer, pork) felt that because of the competitive nature of their industries they were less able to pass on costs to farmers. One processor remarked “The ability to pass it onto suppliers is minimal because the method we use in New Zealand to buy our stock is an auction based system.”

“We’re going into it pretty blind, which is scary. We know some of the impacts and some potential benefits, but not many of them.”

Mitigation and Coping Options

There were a variety of mitigation options discussed by processors depending on their industry type. By and large, there was recognition that New Zealand has a reputation for being “clean and green” and that some marketing opportunities exist to help offset the cost of the ETS. However, many processors felt that these options were minimal particularly since New Zealand largely participates in a global marketplace. For the future, many processors stated that “there is no silver bullet” and that

“Something has to happen because you can’t have fifty percent of your emissions coming from agriculture and pretending it doesn’t exist.”

mitigating biological emissions is more difficult than other types of emissions. On-farm mitigation options for the future may include forestry, nitrification inhibitors, genetic improvement and selection, methane vaccines or increased efficiency. Notably, these strategies could have other impacts on land use and offer different levels of feasibility given their cost of implementation. As a result, most of these strategies were seen to be out of the reach of farmers. This had two impacts- first it meant that many processors felt agriculture should not have an obligation to participate in the ETS because there were not technological options to reduce emissions. Secondly, many processors felt that because of the lack of options the current policy as written was silent on agricultural mitigation and thus could be seen as another type of tax rather than a trading scheme. Other strategies for processors that were mentioned included energy efficiency audits, allocations, unique emissions factors for individual processors or farmers, and continued research collaborations.

“The ETS is essentially just another tax.”

Conclusions and Future Research

This research highlights that there are varying perspectives about the ETS and its impacts on agriculture depending on processor and sector type. Since processors act as a liaison between farmers and the government they will continue to play an important role in the development of the New Zealand ETS. Many processors have already undertaken innovative strategies to offset the impact of the ETS and are mostly keen to participate in the political process. Their role as a conduit of information for farmers should be considered for future policymaking. At the same time, processors expressed the need for feasible mitigation options that will not undermine agricultural production. Engagement in research and innovation should continue to encourage such developments and their uptake. Future research will examine farmer perspectives of the ETS and what influences on-farm adoption of practices for climate change mitigation.

Table 2. Potential ETS Impacts by Processor Type

	Cooperative (Dairy, Fertilizer)	Competitive (Meat)	Integrated (Eggs, Animal Exporter)
Potential Impacts on Farmers	Loss of profit	Loss of profit (3)	Loss of profit (2)
	Forestry dislocating agriculture	Forestry dislocating agriculture (3)	Rise in cost of irrigation
	Tax	Tax (2)	Administration costs
	Rise in input costs (2)	Rise in input costs	
Potential Impacts on Processors	Full impact not felt for long time because of allocation (2)	Poorly understood	
	Foreign ownership increase	Switch to dairy	
		Growing larger animal can impact on food grade	
		Loss of stock (3)	
Passing on Costs	Transport cost increase	Transport cost increase	Pay less to farmers
	Electricity cost increase (3)	Electricity cost increase (2)	International markets pay more
	Irrigation cost increase	Loss of profit (3)	
	Considering moving overseas	Threat to raw supply from forestry	
Passing on Costs	Full impact not felt for long time because of allocation (2)		
	Farmers (4)	Farmers (3)	Farmer
	Consumers	Consumer if niche market	Consumers (Eggs)
	Not consumers (3)	Internalize (4)	International markets pay more