Agriculture’s excluded, so a carbon price won’t add cost. Right?
Sally Davison
Australian Farm Institute

It’s tempting to put the carbon price in the ‘too hard basket’, especially when it all starts to sound like a spaghetti bowl of what-ifs. But the Australian Government’s much anticipated future carbon policy presents a series of dilemmas for those involved in Australian agriculture.

The Australian Government has proposed to introduce a policy that will impose a cost on greenhouse emissions (a carbon price). The mechanism, intended to start on 1 July 2012, is to commence with a government-fixed carbon price – $23 per tonne CO₂-e in 2012–13 increasing by 5% per annum (2.5% in real terms) – which would continue for three years, before being converted into a market-based emissions trading scheme (ETS).

The implementation of this policy will mean that organisations involved in activities that generate greenhouse gas emissions will progressively be required to pay the full cost that those emissions are estimated to impose on the environment. This will create an economic incentive for those organisations to either reduce the volume of emissions they create, or to purchase carbon ‘credits’ or offsets to reduce the net emissions attributed to their organisation. Purchasing offsets involves paying others to undertake actions that are recognised as reducing emissions (mitigation) or sequestering greenhouse gases from the atmosphere (sequestration).

It is proposed that direct agricultural emissions will be excluded from the proposed carbon price mechanism, meaning farms won’t be required to pay for greenhouse gas emissions generated by on-farm activities. That means agriculture won’t bear any of the cost of a price on carbon, right?

Wrong. The cost of many farm inputs are affected by the cost of energy, because energy is a significant part of many of the goods or services that are used by farm businesses. As the price of carbon increases, the price of energy will rise, and the cost of farm inputs can also be expected to increase.

Generally speaking, the prices that Australian farmers receive for the agricultural commodities they produce are set in the international marketplace, in which Australian farmers are price-takers. This means farmers are not able to increase the prices they receive,
Agriculture’s excluded, so a carbon price won’t add cost. Right? (continued)

and that any additional costs incurred by Australian farm businesses have a direct impact on farm profitability.

Having to absorb additional costs is nothing new for Australian farmers. The Australian and New Zealand agriculture sectors are ‘globally-unique’ in that these are the only two developed nation agricultural exporters worldwide which operate without tariff protection, largely without subsidies, while paying developed-nation wages and costs, and the success of these sectors has depended on an ability to continually reduce costs. However, the scale of challenge that will be presented in future years through a carbon cost is quite considerable, and this will tax the ability of businesses in the sector to remain profitable, especially once the carbon price begins to escalate.

The Australian Farm Institute investigated the potential impact of the carbon price mechanism on farm businesses in several different commodity sectors, including grains, sheep, beef, rice, cotton, sugar and dairy*. The results showed that irrespective of agriculture sector emissions being excluded from the ETS, a carbon price has the potential to have a significant negative impact on the profitability of many farm businesses in Australia.

How is potential impact estimated?

There are two potential impacts on farm businesses from the introduction of a carbon price or ETS. The first arises because a carbon price will result in higher energy costs which will result in increased input costs for farm businesses using energy and energy-dependent inputs such as electricity and freight. The second set of costs will arise because downstream processors such as meatworks will face higher energy costs and potential emission costs, and these will presumably be transferred back to farmers in the form of higher processing costs or lower prices for farm products.

To estimate these potential impacts, it’s necessary to start with a model of the financial characteristics of a farm business. Financial models were developed of typical farm businesses, based on data available from ABARES farm surveys or data provided by industry groups. A set of ‘normal’ assumptions (including rates of farm productivity growth) was applied to the farm financial data in order to project trends in farm costs and farm revenue into the future under a ‘business as usual’ scenario.

Where ABARES data was used to create the model farms, itemised annual farm financial data (in 2009–10 dollars) was obtained for the five years from 2006 to 2010 and averaged to provide ‘typical’ farm financial data. Farm production information was also averaged from five years’ data for the model farms generated using ABARES data. For the data provided by industry groups, in some instances more than one year of data was used.

The impact of a carbon price on farm businesses was estimated using formulae that create a link between the price of carbon, the impact of that carbon price on fuel and electricity costs, and the impact of changes in fuel and electricity costs on the cost of farm business inputs, including for upstream and downstream sectors.

Under the policy proposed by the government, agricultural businesses won’t have to pay a carbon price on the fuel they use for transport. However, heavy on-road vehicles will face a carbon price on the fuel they use from 1 July 2014. The impact of the introduction of a carbon price on heavy vehicle fuel use and hence freight from 2014 was included in the models.

The responsiveness of farm input costs to a change in energy prices was calculated on the basis of the significance of electricity or fuel as an input to the goods or services being utilised by the farm business. This enabled the impact of the carbon price mechanism on farm input costs and farm profitability to be calculated based on projected future changes in the price of carbon.

In a number of instances (such as fertilisers, crop and pasture chemicals and fodder) while the cost of the actual product may not be affected by the imposition of a price on carbon (as fertilisers and chemicals are internationally priced), it is likely that the costs reported by farmers include road freight delivery costs and spreading costs. It is therefore projected that these cost items will increase as a carbon price is introduced, as a consequence of the fuel costs associated with their delivery and application which will be borne by heavy vehicles from 2014.

Projected farm costs and farm profitability under a carbon price mechanism could then be compared with the business as usual scenario in the absence of a carbon price, in order to estimate the impact of the policy on future farm profitability. This means that the results do not project an absolute change in farm costs or farm cash income, but rather a change from what would have been the case if no carbon price was introduced.

Previous research by ABARE1 has identified that post-farm transport and processing costs will also be impacted by a carbon price, and given the international exposure of Australia’s farm commodity and food sectors, it is also anticipated that these additional costs will be passed back to farmers in the form of higher processing costs and/or lower farm commodity prices. These additional post-farm costs identified by ABARE have been incorporated in this analysis. Table 1 (following) identifies these estimated costs, which have been converted to 2009–10 dollars. In the case of cotton, dairy and rice processing, the estimates of additional costs have been obtained through analysis of energy use data provided by major processors. These processor costs were linked to the carbon price in the modelling, and so increased as the carbon price increased.

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In the fixed price stage of the carbon price, which will run from 1 July 2012 to 30 June 2015, the carbon price will start at $23/tonne CO$_2$-e and rise by 2.5% a year in real terms (approximately 5% in nominal terms). From 1 July 2015 onwards, the price will be set by the market and the number of permits issued by the government each year will be capped. However to get a picture of the impact of the carbon price over a longer period of time, Australian Government Treasury modelling was used to estimate the carbon price. Treasury modelling indicated that the carbon price would increase by an average of 5% in real terms each year.

What is the impact on farm businesses?

From the analysis, it is clear that even in the first year of the carbon price, at $23/tonne CO$_2$-e, farm costs increase and farm cash income reduces. It is important to note that all the changes in farm costs and farm cash income are changes from the business as usual scenario where no carbon price is introduced in Australia. This means that all the changes discussed are relative rather than absolute. The results for the model beef, sheep, grain, dairy, rice and cotton farms are detailed below. These results are one year after the carbon price is introduced, and include additional processor costs which were assumed to be fully passed on to farm businesses.

The impact of a carbon price on farm businesses can also be expressed in terms of projected changes in farm businesses.

### Table 1: Post-farm processor costs.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Source</th>
<th>Units</th>
<th>Additional costs 2013</th>
<th>Additional costs 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef processing</td>
<td>ABARE</td>
<td>$/head</td>
<td>$1.59</td>
<td>$7.96</td>
</tr>
<tr>
<td>Sheep processing</td>
<td>ABARE</td>
<td>$/head</td>
<td>$0.15</td>
<td>$0.75</td>
</tr>
<tr>
<td>Grain processing</td>
<td>ABARE</td>
<td>$/tonne</td>
<td>$0.61</td>
<td>$2.45</td>
</tr>
<tr>
<td>Dairy processing</td>
<td>ABARE/Industry</td>
<td>$/litre</td>
<td>$0.0028</td>
<td>$0.00524</td>
</tr>
<tr>
<td>Cotton processing</td>
<td>Industry</td>
<td>$/bale</td>
<td>$1.39</td>
<td>$1.59</td>
</tr>
<tr>
<td>Rice processing</td>
<td>Industry</td>
<td>$/tonne</td>
<td>$3.68</td>
<td>$4.50</td>
</tr>
</tbody>
</table>

The energy costs for these processors are therefore unlikely to change to any great degree. For the cotton farm, the increase in total farm costs is related to the high percentage of input costs which are reliant on energy, the costs of which are projected to change as a consequence of the introduction of a carbon price. While the total farm costs for both the Burdekin sugar farm and the cotton farm increase significantly in dollar terms, in percentage terms they increase by 0.8 and 0.6% respectively. These farms are relatively large scale, so the increase in total farm costs doesn’t appear as large in percentage terms as it does for other farms, such as the two dairy farms.

### Table 2: Projected change in farm business costs and farm cash income for the model farms, one year after the introduction of a carbon price.

<table>
<thead>
<tr>
<th>BEEF FARMS</th>
<th>SHEEP FARMS</th>
<th>GRAIN FARMS</th>
<th>DAIRY FARMS</th>
<th>SUGAR</th>
<th>RICE</th>
<th>COTTON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Qld</td>
<td>Vic</td>
<td>Australia</td>
<td>NSW</td>
<td>WA</td>
<td>NSW</td>
</tr>
<tr>
<td>Carbon price</td>
<td>$23</td>
<td>$23</td>
<td>$23</td>
<td>$23</td>
<td>$23</td>
<td>$23</td>
</tr>
<tr>
<td>Cost – processor ($)</td>
<td>$418</td>
<td>$546</td>
<td>$259</td>
<td>$278</td>
<td>$549</td>
<td>$451</td>
</tr>
<tr>
<td>Cost – farm ($)</td>
<td>$1,145</td>
<td>$1,406</td>
<td>$635</td>
<td>$976</td>
<td>$1,112</td>
<td>$1,024</td>
</tr>
<tr>
<td>Cost total ($)</td>
<td>$1,563</td>
<td>$1,952</td>
<td>$893</td>
<td>$1,254</td>
<td>$1,661</td>
<td>$1,474</td>
</tr>
<tr>
<td>Cost change (%)</td>
<td>0.6%</td>
<td>0.3%</td>
<td>0.7%</td>
<td>0.6%</td>
<td>0.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Income change (%)</td>
<td>-3.4%</td>
<td>-2.7%</td>
<td>-2.9%</td>
<td>-3.7%</td>
<td>-5.2%</td>
<td>-3.8%</td>
</tr>
</tbody>
</table>

feature 3
...cash income (gross farm cash revenue minus farm cash costs) as the carbon price changes. Farm cash income is an important measure for a farm business, as it reflects the cash surplus generated each year that is available for owner/operators expended and/or to retire debt.

For the beef farms, farm cash income reduces most for the ‘Australian average’ farm (a 3.4% reduction from business as usual income), in the first year after the introduction of a carbon price. The reason for this relates to the ability of the model farms to generate revenue, per dollar input cost. In the base year (prior to the introduction of a carbon price), the Victorian model beef farm was generating $1.22 of revenue per dollar of input cost, while the Queensland farm generated $1.19 revenue and the Australian average beef farm generated just $1.16 of revenue per dollar of input. This highlights the importance of future productivity growth to enable farms to maintain profitability despite the introduction of a carbon price.

Of the three model sheep farms, in relative terms the impact of the carbon price on farm profitability was projected to be greatest for the NSW farm, one year after the carbon price is introduced. This is partly because the NSW farm has the lowest overall productivity rate of all three model farms. The NSW farm is highly reliant on income from sheep and wool sales, which in combination make up 68% of total revenue. In comparison, the WA farm obtains 53% of farm revenue from sheep and wool sales, and 30% from the cropping enterprise. The historical productivity rates associated with cropping (1.5% p.a.) are higher than for wool and sheep production (0.3% p.a.). Over time the higher overall farm productivity rate for the WA farm allows the farm to better absorb the increase in input costs.

It is interesting to consider the potential impact on farm businesses three years after the introduction of a carbon price, because by this time it’s the government’s intention to have a carbon price imposed on fuel used by heavy vehicles. The results from the modelling at year three are shown below, including additional freight and processor costs which were again assumed to be fully passed on to farm businesses.

The biggest change in total farm costs in dollar terms, three years after the introduction of a carbon price, is observed for the grains, cotton and dairy farms. The two model grain farms experienced a relatively large increase in farm input costs. Grain production is reliant on energy-related inputs such as chemicals and fertiliser, which are assumed to be impacted by increasing freight costs with the imposition of a carbon price on fuel used by heavy vehicles after 2014, and the increase in the carbon price (from $23/tonne CO2-e in 2013 to $25.36/tonne CO2-e in 2015). The same is the case for the cotton farm, with input costs increasing by a much larger amount than the increase in processor costs projected three years after the introduction of a carbon price. For the two model dairy farms, both farm costs and processor costs increase, though the processor cost increases by a relatively larger amount (in dollar terms). A report completed in 2008 for the Dairy Manufacturers Sustainability Council provided estimates of the total energy use and energy sources for Australian dairy manufacturers. According to the report, on average electricity and coal contributed 43% of the total energy consumed. Based on this, processor costs can be expected to rise and this will impact on total farm costs for dairy businesses.

As mentioned above, most sugar processing plants are fuelled by sugar cane materials for renewable energy co-generation. As a result, three years after the introduction of a carbon price, the biggest impact for the sugar cane farms is the increase in farm costs. The Burdekin region farm has a larger dollar increase in farm costs than the Central region farm, however in percentage terms the increases are relatively similar. This is because the Burdekin farm is much bigger, producing more than 37,000 tonnes of sugar cane each year, compared with more than 10,000 tonnes sugar cane for the Central region farm. The total costs and total revenue for the Burdekin business are much larger, so for a given dollar change in costs, the percentage change will be smaller.

For the beef and sheep farms, processor costs increase more than farm costs increase, three years after the introduction of a carbon price. While the imposition of a carbon price on fuel used by heavy vehicles after 2014

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Table 3: Projected change in farm business costs and farm cash income for the model farms, three years after the introduction of a carbon price.

<table>
<thead>
<tr>
<th>BEEF FARMS</th>
<th>SHEEP FARMS</th>
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<th>SUGAR</th>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Qld</td>
<td>Vic</td>
<td>Australia</td>
<td>NSW</td>
<td>WA</td>
<td>NSW</td>
</tr>
<tr>
<td>Cost – processor ($)</td>
<td>$2,282</td>
<td>$2,990</td>
<td>$1,410</td>
<td>$1,424</td>
<td>$2,663</td>
<td>$2,167</td>
</tr>
<tr>
<td>Cost – farm ($)</td>
<td>$1,758</td>
<td>$2,143</td>
<td>$942</td>
<td>$1,537</td>
<td>$1,678</td>
<td>$1,908</td>
</tr>
<tr>
<td>Cost total ($)</td>
<td>$4,041</td>
<td>$5,133</td>
<td>$2,352</td>
<td>$2,962</td>
<td>$4,341</td>
<td>$4,075</td>
</tr>
<tr>
<td>Cost change (%)</td>
<td>1.5%</td>
<td>1.4%</td>
<td>1.8%</td>
<td>1.5%</td>
<td>2.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Income change (%)</td>
<td>-7.4%</td>
<td>-6.0%</td>
<td>-6.7%</td>
<td>-8.3%</td>
<td>-12.7%</td>
<td>-9.4%</td>
</tr>
</tbody>
</table>
emission liability or a carbon price on the agriculture sector from an impact on the profitability of farms in Australia, regardless of the exclusion challenge to this change?

The introduction of a carbon price has the potential to have a significant impact on the profitability of farms in Australia, regardless of the exclusion of the agriculture sector from an emission liability or a carbon price on their fuel use. The scenarios modelled here and the assumptions underlying the modelling are as realistic as possible, but are still subject to a large degree of uncertainty at both a policy and at a farm operation level. Faced with additional costs, farm business managers could respond in a variety of different ways that are not foreseeable or predictable, and technologies may emerge over time that enable adaptation to occur and the negative impacts of a carbon price on farm businesses to be reduced.

From the analysis conducted, however, it is clear that the introduction of a price on carbon presents a significant challenge for farm business managers, particularly smaller-scale farms. For all farms, the ability to maintain or increase rates of productivity growth is going to become increasingly important if a carbon price is introduced. Research and development to discover viable ways to reduce reliance on energy-dependent inputs such as chemicals or fertiliser without reducing productivity will also be important.

It is interesting to consider what the impact of the carbon price imposition on heavy vehicles will have for farm business structures. Where previously a farmer may have paid a transport company for farm freight tasks, if the costs associated with this increase in order to cover additional fuel costs associated with a carbon price, farmers may be more inclined to purchase their own trucks. There is currently some uncertainty about whether road use charges will increase under the government’s proposed policy, and this may have some implications for capital investment by farmers.

As outlined in the modelling, the impact of a carbon price on processor costs is potentially significant. The challenge of this cost for farm business managers is that there is very little which can be done to reduce it. There is little opportunity to change behaviour to cope with this additional cost burden, as it is largely determined at the processor level and passed back to the producer. It should be noted that calculating the impact of a carbon price that excludes fuel at the farm-level but includes freight was less straightforward and a series of assumptions needed to be made. Therefore the results obtained can be regarded as indicative only, but serve to highlight the implications of a carbon price and the potential challenge farm businesses will face.

In conclusion even if the agriculture sector is not covered under the carbon price mechanism, the introduction of a carbon price in the Australian economy has the potential to have a significant negative impact on the profitability of sheep, beef, grains, sugar, cotton, dairy and rice farms in Australia. The need for businesses in the sector to seek out ways of increasing efficiency and reducing costs will be even greater in the future than has been the case in the past, especially as it is unlikely that many of the nations which Australian farmers compete with in international markets will have similar policies in the foreseeable future.

*The original modelling studies that contributed to this article were completed with funding from: Meat & Livestock Australia, Sheepmeat Council of Australia, GrainCorp Operations Limited, Dairy Australia, Cotton Australia, CANEGROWERS and Ricegrowers’ Association of Australia. The full reports are available on the National Farmers’ Federation website, www.nff.org.au. The Institute will be publishing Research Reports on the implications of the Carbon Farming Initiative and the carbon price mechanism on farm profitability in coming months. Please see www.farminstitute.org.au for details.
Adding up the cost of transport

Australian agriculture produces 55 to 60 million tonnes of food and fibre each year, of which 60% is exported. The sources of supply – individual farms – are widely dispersed and produce a diverse range of goods, the handling and transport of which often require specialised equipment and infrastructure. From farm to a foreign customer, transport of Australia’s agricultural products is a complex task and the costs incurred have an important bearing on the competitiveness of Australian farmers and the returns they receive.

Transport costs don’t always receive the attention that their share in total costs of production and supply warrant. Often, the costs are not apparent to producers, because they are borne in the first instance by traders, marketers or customers, but are factored in to the prices paid for farm products.

The Australian Farm Institute has commissioned research investigating transport costs for farm products, and their impact on the returns of Australian farmers in domestic and export markets. The results will also provide a benchmark for future analysis of transport costs, so that changes in the transport cost of various steps in the supply chain can be identified and analysed.

Statistical data on the entire transport task is not available for farm products in Australia, and there is insufficient information on which to estimate the aggregate cost of transport either in total or for individual commodities. Instead, a number of case studies were identified based on substantive production regions for each commodity and key markets. The researchers, Garry Goucher and Associates, then set about investigating the cost of each step in the transport chain for each product from the farmgate to the international or domestic destination.

For example, the transport of wheat from northern NSW to Yokohama, Japan was investigated, including road, rail and bulk shipping costs. Wool produced in Wudinna SA and exported to Shanghai, China, was one of the case studies used, with costs of road, rail and dry container shipping included in the analysis. Refrigerated road transport of bananas from Tully in Queensland to Melbourne markets was also investigated, as part of the research project.

In comparison to the agricultural sectors of most other countries, Australian agriculture is highly export-oriented, but also very isolated. The cost of overcoming this isolation is an important element of the competitiveness of Australian agriculture. On average, the shipping destinations of the representative tasks used in this study were over 5200 nautical miles and 15.5 days away from the port of departure. Yet, the domestic rail transport cost component for some goods (per tonne or per bale) was greater than the estimated shipping cost.

While transport costs don’t reveal how efficiently the transport and handling infrastructure is operating or whether it is internationally competitive, the results of this research report do provide a basis for discussion of the adequacy of transport infrastructure on which Australian agriculture depends. Developing a benchmark and framework for repeated analysis of transport costs will also provide an important indication of which areas are having the greatest impact on producer returns.

Perhaps most importantly, a benchmark against which changes in transport costs can be measured over time can provide information on where investment in infrastructure could yield the greatest returns to producers and the Australian economy. Privatisation or corporatisation of formerly publicly owned infrastructure has influenced the investment pattern of transport infrastructure in Australia. The need for these entities to generate strong revenue growth may also influence where and how capacity upgrades are delivered into the future.

Against this backdrop, and potential pressure from these organisations to push responsibility for the agriculture transport task on to governments, an objective, repeatable and comprehensive study of the cost of transporting agricultural goods is of critical importance to the long-term competitiveness of the Australian agriculture sector.

The full results of this research will be available on the AFI website in the coming months.
Encouraging interest in agriculture and food policy studies

It is well known that the farming population is getting older, that there is a shortage of labour and skills, as well as a growing gap between rural and city cultures. These issues have been tackled numerous times in various AFI publications. There are many factors behind these trends, but it is more and more important to dust off agriculture’s image and attract young, motivated students and professionals.

Every day, the media and government tackle questions directly related to agriculture. Far beyond “MasterChef” and other foodie interests, agriculture study and research is the keystone much environmental and food knowledge. It offers a real insight into the commodity price crisis, land use in Brazil or Indonesia, agribusiness strategies, food safety issues, and the importance of animal welfare. These issues are rising in importance for today’s society, but it is questionable whether the next generation is gearing up to address them.

AFI believes that research and analysis are a very important part of the development of this knowledge and wants to give students and young professionals an opportunity to have their say. To do so, in 2010 the Institute organised two essay competitions open to students and young researchers. While the entries were always interesting, the numbers of student entries were lower than desired.

Last year, the Australian Farm Institute initiated the John Ralph Essay Competition. John Ralph was instrumental in the establishment of the Australian Farm Institute, becoming its founding Chairman in 2004 and continuing in that role until his retirement in June, 2010. John was the former Chairman of the Commonwealth Bank of Australia, former Deputy Chairman of Telstra Corporation and previous Chairman of the Business Council of Australia and the Australian Mining Council. The John Ralph Essay Competition encourages young professionals to contribute to the vibrant Australian agricultural community debate on topical issues by offering both an opportunity to publish their research and analysis, and a cash prize.

This year, the John Ralph Essay Competition proposes two innovations in order to engage more young professionals and students:

- Creation of a student cash prize of $500
- Prizes for the two winning entries will be awarded at the 2011 Agricultural Roundtable Conference (9 & 10 November, in Melbourne.)

In addition, and to encourage interest in this competition, the Australian Farm Institute is also inviting active participation from educators. Schools, universities, lecturers and professors are invited to register their interest before 23 September 2011.

Educators are encouraged to fully participate in engaging students with the competition. Creating discussion and debate around the topic, and encouraging students and the wider community to enter; showcasing the vibrant and topical questions related to agriculture study; and highlighting the numerous and various career possibilities on offer. Any lecturer or professor interested in this project will be invited to include the competition topic in his/her students’ assessment tasks, and to register at least three entries to the competition.

These lecturers and professors will be offered:

- One year’s subscription to the Farm Policy Journal
- One research report of their choice.

In addition to the cash prizes the best entry in each category (professional and student) will receive:

- Publication in the Summer 2011 Farm Policy Journal
- One entry to the next Agriculture Roundtable Conference
- One year’s subscription to the Farm Policy Journal.

This year’s topic:

Agriculture and energy, a growing challenge

The world’s population is projected to exceed 9 billion people by 2050, and it has been forecast that global agricultural output will need to increase by 70% to meet this need. At the same time, agriculture is being called on to meet the world’s future energy needs by providing feedstocks for biofuels, and also to assist in reducing the future risk of human-induced climate change by sequestering atmospheric carbon in soils and forestry plantations. How feasible is it that global and Australian agriculture will be able to meet these competing demands, and what Australian policies should be implemented to assist the sector to meet these challenges?

Prizes:

- Professional Category: $2000 cash prize
- Student Category: $500 cash prize.

Essay criteria:

Maximum 4500 words (excluding reference list), use of primary sources preferred. The document ‘competition 2011 guidelines’ is available on the AFI website or upon request. Some flexibility is possible in relation to these requirements in order to accommodate the specific constraints of university lecturers.

Deadlines:

- For professors and lecturers, register your interest before: Friday, 23 September 2011
- For finished essays: Friday, 14 October 2011.
Will the NBN transform or tax the bush?

Senator Stephen Conroy
Minister for Broadband, Communications and the Digital Economy and Minister Assisting the Prime Minister for Digital Productivity

The National Broadband Network (NBN) will, without doubt, transform regional Australia by providing ubiquitous, reliable, high-speed and high capacity broadband to 100% of Australian premises and deliver services at a uniform national wholesale price. This will give every community in rural and regional Australia the opportunity to get fairer access to affordable high-speed broadband.

The benefits of growth in the use of broadband are expected to affect people living in regional areas more than those living in cities, with a 10% increase in connectivity predicted to raise regional output by 0.53% compared with just 0.38% in metropolitan areas. Regions in particular benefit as a result of increased connectivity. This is in part a result of the industry concentration in those areas, which enjoy higher gains flowing from increased investment.

The NBN will bring regional communities diverse opportunities for businesses, including farming and agricultural sectors. The NBN will mean people have the choice to live in regional Australia and run businesses which require large bandwidth. This will promote regional economic productivity and prosperity. It will also encourage more people and business from the cities to move to regional areas, as has already been seen in Minnamurra/Kiama Downs – one of the first release sites – where businesses have relocated to take advantage of the NBN.

A recent report, commissioned by the Rural Industries Research and Development Corporation, shows that some of the key trends and challenges in rural industries align closely with the opportunities for innovation and productivity gain that IT and access to increasing quality of broadband services present for businesses. In particular, rural industry competitiveness is becoming reliant on strong connection to markets and information, increasing labour productivity and managing businesses that are becoming more information intensive.

Regional Australia does not enjoy the same level of health services as exists in larger, metropolitan cities. The NBN with its bandwidth capacity and reliability will support devices and applications that will transform health and education services. In June 2011 a number of health and education trials commenced in the early NBN release sites of Armidale, Kiama and Townsville. Reliable high-speed broadband allows the interaction between health care professionals and patients in their homes via high quality video links which will benefit the elderly or others who are unable to travel, sometimes long distances, to visit their doctor in person.

In education, the use of the NBN can mean people have the choice to live in regional Australia and run businesses which require large bandwidth. This will promote regional economic productivity and prosperity. It will also encourage more people and business from the cities to move to regional areas, as has already been seen in Minnamurra/Kiama Downs – one of the first release sites – where businesses have relocated to take advantage of the NBN.

A recent report, commissioned by the Rural Industries Research and Development Corporation, shows that some of the key trends and challenges in rural industries align closely with the opportunities for innovation and productivity gain that IT and access to increasing quality of broadband services present for businesses. In particular, rural industry competitiveness is becoming reliant on strong connection to markets and information, increasing labour productivity and managing businesses that are becoming more information intensive.

Regional Australia does not enjoy the same level of health services as exists in larger, metropolitan cities. The NBN with its bandwidth capacity and reliability will support devices and applications that will transform health and education services. In June 2011 a number of health and education trials commenced in the early NBN release sites of Armidale, Kiama and Townsville. Reliable high-speed broadband allows the interaction between health care professionals and patients in their homes via high quality video links which will benefit the elderly or others who are unable to travel, sometimes long distances, to visit their doctor in person.

In education, the use of the NBN can allow development of state-of-the-art virtual interactive training rooms that will incorporate high definition IP television, video on demand and 3D trade skills development packages in universities, TAFEs and other schools or learning environments. The benefits of being connected to the NBN are reverberating through the school environment and teachers are being encouraged to actively explore new ways to use internet-based learning in the classroom. Principals report students are engaged, they can move from one task to another much more quickly, and they can access a range of media when they are researching.

Broadband is a game changer because the always-on nature of broadband changes the role of communications networks and technology to be an efficient, central and reliable factor in the farm business. As an example, Mr Peter McPherson, General Manager, BerryExchange states that:

[T]he high-speed broadband will allow us to reduce the travel requirements dramatically, as we’ll be able to have greater access to what’s happening in the fields, whether that be breeding or whether that be in growing regions around the world, and enable us to make quicker decisions on corrective actions.

The use of broadband will transform farming by allowing farmers to increase their yields through the more precise management of livestock and natural resources. Reliable, always-on and ubiquitous broadband can provide farmers with the confidence to deploy more networked technologies around their properties to better monitor and manage requirements. An example includes the use of sensor and other communications networks to better manage water by controlling and integrating canal networks with on-farm irrigation systems.

NBN Co’s Interim Satellite Services and fixed-wireless network will bring forward the introduction of enhanced broadband services for regional areas so that regional Australia can get access to better broadband as fast as possible. These technologies represent a step-change over speeds currently experienced by users of those technologies today. The introduction of the fixed-wireless and interim satellite service means that those parts of the country with some of the poorest access to high-speed broadband should be among the first to receive the NBN via satellite or the fixed-wireless solution.

Senator the Hon Stephen Conroy
was appointed Minister for Broadband, Communications and the Digital Economy and Minister Assisting the Prime Minister for Digital Productivity in September 2010. He is also Deputy Leader of the Government in the Senate.

Appointed as a Labor Senator for Victoria in 1996, Stephen has had active involvement in the communications portfolio for ten years – first as Senate representative for Shadow Communications Spokesman Lindsay Tanner and then as Shadow Communications Minister until the November 2007 federal election.
The Hon Malcolm Turnbull
Shadow Minister for Broadband and Communications

Given the growing importance of the internet to our economy and society, both sides of politics agree that all Australians should have access to fast, reliable and affordable broadband, regardless of where they live. Communications infrastructure in many parts of the nation needs to be upgraded to achieve this objective. But the most pressing needs are in rural and regional Australia, where roughly a million households and businesses lack access to high-quality broadband services.

For over a century Telstra’s copper network adequately served Australia’s needs because phone calls involve sending only a tiny amount of data. But around 1980 new types of communication involving ever-increasing amounts of data tested the ability of the copper to keep up – faxes at the start, then emails and web pages, and most recently huge music and video files. Doing all this over copper wires was made even more challenging by decisions about network design. Joining copper lines into ‘pair gains’ made it cheaper to extend Telstra’s network in the 1990s, but later turned out to make parts of it unfit for technologies such as ADSL, used to provide faster broadband over copper (although recent Telstra trials suggest this issue has been resolved).

Where the market fails to provide infrastructure or services, as it often does in less populated areas, it is the role of governments to step in and ensure all Australians have access to at least a basic level of amenity. But that does not mean it is the role of government to spend money thoughtlessly or recklessly on infrastructure. This is where the Coalition differs from Labor – governments should commit to projects only after clearly defining the problem and carefully analysing the available solutions to determine which offers the best value for money.

In the case of the National Broadband Network (NBN) Labor failed to do either, and chose the most expensive possible approach. Where NBN Co’s fibre network is rolled out it will provide vastly more broadband to every home and business in Australia than most need or know what to do with. The most enthusiastic advocates of the NBN are technophiles who can easily imagine what they personally could do with 100 megabits per second of data transfer. But for average families the uses for all that capacity are far less clear. NBN Co’s business plan states that to fill up even half the maximum broadband plan the NBN will offer at its inception, a household would have to be using ‘advanced internet’, casual gaming, IPTV, online storage, video calling and two smartphones – all at once. NBN Co concedes that 70% of households using it in 2013 will buy plans offering 25 megabits per second or less – only a bit more than the top ADSL2+ speeds of today over copper, and less than the broadband speeds available over HFC pay TV cables.

The NBN will deliver better broadband services more slowly – some communities will have to wait eight or nine years – and more expensively than almost any other approach. An expense borne by taxpayers that will also lead to higher prices for consumers. Over the past two years the price of broadband over copper has fallen by 20% in Australia, but the NBN assumes that once it is delivering the internet, wholesale prices for people buying basic plans will not fall any further for ten years.

Higher prices under the NBN are particularly egregious because the biggest barrier to accessing broadband in Australia is not distance but household income. Government figures reveal 94% of households earning $120,000 or more have access to the internet at home, compared to only 43% of households earning less than $40,000. The NBN’s elimination of competing networks and technologies and the end of price falls will hardly help this gap.

At the last Federal election the Coalition and Labor offered essentially similar commitments to households and businesses in the most remote 7% of Australia. Indeed, if the Coalition had been elected in 2007, households in the ‘last 7%’ would already have experienced a major upgrade in broadband quality. Instead, Senator Conroy abruptly cancelled the OPEL plan which would have delivered this in 2008.

Elsewhere public and private investment is needed and can be delivered with the right policy settings. In areas where the copper network is not good enough to deliver ADSL2, a variety of options are available. Households too distant from the exchange to get adequate speeds can be upgraded by bringing fibre closer to them (to nodes beyond the exchanges) or all the way to them. If copper is at the end of its life it should be replaced by fibre. Likewise, at new housing developments it makes sense to use fibre from the start because incremental costs are low. And restrictions on using HFC pay TV cables for broadband must be removed.

This is a more rational approach to delivering fast broadband to all Australians at a reasonable cost than Labor’s vastly expensive NBN.

The Hon Malcolm Turnbull was chair of the Australian Republican Movement from 1993 to 2000 and later served as the Honorary Federal Treasurer of the Liberal Party from 2002 to 2003. Malcolm joined Parliament as the Member for Wentworth in 2004 and in his first term served as Parliamentary Secretary to the Prime Minister and then as Minister for Environment and Water Services. After a change of government, Malcolm served as Opposition Treasurer and Leader of the Opposition. He has since been appointed Shadow Minister for Broadband and Communications. In the 1990s, Malcolm helped found OzEmail one of Australia’s first internet start-ups.

For this issue’s ‘in my view’, the Institute invited comments on the topic of the NBN from two politicians with differing policy viewpoints. Readers are invited to continue the discussion on the Institute’s Ag Forum blog.
The live cattle exports issue

While the ABC Four Corners footage of cattle slaughtering in Indonesia was graphic and Australians were understandably upset, the issue has highlighted the divide that exists between urban and rural Australia. A slick and prearranged campaign by Animals Australia, the RSPCA and activist group GetUp! resulted in a flood of messages going to politicians offices, and put considerable pressure on the Federal Government to ‘do something’. A group of nine or ten ALP members (predominantly from suburban electorates in southern Australia and led by Kelvin Thompson, Member for Wills located in suburban Melbourne) forced the government to implement the blanket ban on cattle exports to Indonesia. The group seemingly had little knowledge of the realities of the live cattle export industry, and the extent of supply-chain investment in Indonesia by major Australian exporters, otherwise they might perhaps have better understood that restricting the trade to a limited number of secure exporters would result in a much better outcome than a blanket ban.

After the initial media frenzy, it took several weeks for the follow-up stories to start to emerge that detailed the actual impact of the ban on farm businesses in northern Australia. The realisation seemed to gradually emerge amongst reporters about two issues that were not covered in the earlier reporting.

The first was the fact that the slaughter was actually occurring in another country, and that Australian industry and government could not just march in and demand changes, and in fact had been trying to achieve animal welfare improvements for quite some time (the only overseas nation to do so).

The second was that industries like the beef industry can’t just shut down overnight – that cattle keep growing and need feed and water and seasonal conditions dictate how production systems work and what options producers have available. It was interesting that by the fourth week of the suspension, stories started to emerge of job losses in northern Australia, cattle potentially having to be culled, and the impact of the trade suspension on ordinary Indonesians, including those working in the Indonesian industry.

Social media (twitter, blogs etc.) was a big part of the electorate response that led to the trade being suspended, and the contrast between the well prepared and slickly organised campaign spearheaded by GetUp! and the slow and fragmented response by the agriculture sector was quite stark, and revealing.

Hopefully, two groups have learnt a lot out of this episode, notwithstanding the fact that the issue still has a long way to run and the problems are by no means resolved.

The first lesson is that in an age of instant communications and rapid and universal access to information, issues like this can emerge very quickly and generate a seemingly strong community response. The agriculture sector is at a disadvantage in such an environment, being fragmented, geographically diverse, and segmented along commodity lines. Clearly, industry groups and the sector as a whole need to develop response capability for issues such as this, and to put in place the necessary systems to enable quick decisions to be made.

The media has no patience and little tolerance for uncertainty or delay.

The second lesson is one for government. A flood of emails into politicians in-boxes is not a good basis on which to make snap policy decisions, especially if that flood of emails is organised by professional activists having little or no understanding of the complexity of the issue. Electronic communication systems make it very convenient for a person to join a ‘lynch mob’ without ever leaving their desk. While these people might be understandably outraged at the images they observed, the simplistic response they express support for (such as banning live exports) can have very substantial perverse implications that last well beyond the few seconds it takes to click a box on a website.

For further analysis of current media stories, follow the Ag Forum blog.

Confirmed speakers include:
Malcolm Jackman, Chief Executive and Managing Director of the Elders Group
Jock Laurie, President, National Farmers’ Federation
Professor Peter Drysdale, Crawford School of Economics and Government, ANU
Tom Maguire, GM Corporate Affairs, Teys Bros.
Dr Manny Noakes, Senior Research Dietician, CSIRO
Associate Professor Sharon Friel, College of Medicine, Biology and Environment, ANU
Andrew Broad, President Victorian Farmers’ Federation
Mark Wootton, Chairman of The Climate Institute

Annual Agriculture Roundtable Conference, Melbourne
The Hotel Windsor, 9 and 10 November 2011
Each year the Australian Farm Institute convenes a national conference to bring together farm and agribusiness leaders to consider and discuss some of the strategic policy issues of importance for agriculture. Conference sessions are structured around a number of themes, and this year there will be a ‘Great Debate’ on the topic of a carbon price. The statement for debate is ‘That agriculture has been let off lightly in Australian climate policy.’

Go to www.farminstitute.org.au for more information, or to book online.

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Australian and international farm policy news

G20 agreement on food security
Agriculture ministers from the G20 met on 23 June in Paris to tackle global food price volatility, after world food prices hit record highs earlier in 2011. The action plan agreed on by the agriculture ministers will be discussed by G20 leaders at a summit in November 2011. A new Agriculture Markets Information System will be developed to provide information on crop supply, demand and food stocks. There was a call for the beleaguered Doha Round of trade negotiations to conclude, and a focus on efforts to improve productivity. While biofuels were mentioned as a significant factor behind price rises, direct address of biofuel policies in individual nations was avoided because the United States (US) and Brazil are such large biofuel producers.

Ethanol support in US waning?
Within the US, biofuel supporters have been dealt a blow with the US Senate approving an amendment to repeal tariffs on imported ethanol and the Volumetric Ethanol Excise Tax Credit, a policy which subsidises the production of ethanol. The vote was symbolic only, however, because revenue amendments need to originate in the House of Representatives. Other attempts have been made to change legislation on funds for ethanol infrastructure, but the moves have been limited, and the Obama Administration remains opposed to a straight repeal of ethanol programs. However the moves have been noted by the ethanol industry, which is now lobbying for a gradual phase-out of support rather than a sudden cut.

Regional development in vogue
US President Barack Obama has established the first White House Rural Council to improve rural economic strategy. With 16% of the US population living in rural areas, the aim of the new Council is to encourage public-private partnerships to promote job creation and economic development. Meanwhile in Australia, the NSW Government has announced it will give $7000 grants to citysiders to move to regional areas. The Regional Relocation Grants started on 1 July 2011, and are limited to regional properties in NSW valued up to $600,000.

Carbon markets stall globally
Carbon markets fell significantly in the month of June, with the European carbon price reaching its lowest levels in more than two years. Prices for emission units in the New Zealand Emission Trading Scheme (NZ ETS) also fell steadily, along with Certified Emission Reduction units (CERs) which can be used in both the European ETS and the NZ ETS to meet emission reduction obligations. The drop in carbon markets has been attributed to a combination of several factors including falling oil prices; weakness in the European and US economies; an overhang of free permits in the European ETS; disagreement between Europe, China and the US over the inclusion of non-European airlines in the EU ETS; and a lack of successor to the Kyoto Protocol.

CFI draft methodologies out for comment
At the time of publication, five draft methodologies have been released for the generation of emission offsets through the Carbon Farming Initiative (CFI). The CFI is a package of measures designed to create a framework for the recognition of emission offsets (mitigation or sequestration), aiming to give farmers and landholders the opportunity to participate in carbon markets and generate revenue from the sale of offset units. The five draft methodologies released for public comment include environmental plantings, savanna burning, methane capture from manure in piggeries, capture and combustion of gas from landfill, and management of feral camels in the rangelands. The draft methodologies can be found on the Department of Climate Change and Energy Efficiency website, www.climatechange.gov.au/cfi

Bayer to pay rice farmers
Bayer CropScience will pay up to $750 million to US rice growers involved in litigation over genetically modified traits contaminating their crops. The settlement concludes a four-year case that started when two strains of genetically-modified rice entered the US supply chain, which had not been approved by federal regulators.

The settlement program will be open to all US farmers who had been growing long-grain rice during the period of 2006 through 2010. The settlements are contingent on the participation of a sufficient number of growers to represent at least 85 percent of US long-grain rice acreage. In a statement available on its website, Bayer says:

Although Bayer CropScience believes it acted responsibly in the handling of its biotech rice, the company considers it important to resolve the litigation so that it can move forward focused on its fundamental mission of providing innovative solutions to modern agriculture.

US Humane Society and egg producers team up
The Humane Society of the US and the United Egg Producers (UEP) have announced they will work together to get federal legislation enacted to place certain requirements and standards on US egg production. The United Egg Producers is a cooperative of egg farmers representing the ownership of approximately 95% of all the US’s egg-laying hens.

The proposed standards advocated by UEP and the Humane Society, if enacted, would be the first federal law addressing the treatment of animals on farms. The proposed legislation would require conventional cages (currently used by more than 90% of the US egg industry) to be replaced with ‘enriched housing systems’ that provide each hen nearly double the amount of space they’re currently allotted. The proposed legislation would also require labelling on all egg cartons in the US to inform consumers of the method used to produce the eggs.

Keep up-to-date with discussion on current issues in Australian and international agriculture policy via the Ag Forum on the Institute website.
In the news

The Institute discussed the live export ban in interviews broadcast on Today Tonight and Channel 9, and ABC, Darwin. The Daily Telegraph article ‘Live export ban to Indonesia cuts meat prices for Australia’ by Samantha Townsend and Gemma Jones (9/06/11) quoted the Institute views that ‘an oversupply of beef would depress prices’ meaning that ‘consumers will get cheap meat at the cost of farmers.’

In mid-June AFI convened a conference on the topic ‘Can Productive Agriculture also be Consumer-Friendly?’ In the article ‘Consumers challenged to re-think sustainable agriculture’ from Beef Central, Jon Condon (22/06/11) interviewed US speakers Dr Roger Cady and Brett Stuart. Cady gave his opinion that consumers were being ‘greenwashed’ into thinking that certain types of technology-intensive agriculture were not environmentally friendly. ‘Today’s technology-aided intensive agriculture is far more environmentally sustainable than historical agriculture because fewer resources, less water, and less land are used with less greenhouse gases produced per unit of food grown than by historical farming methods.’ Stuart claimed it was socially-irresponsible to impose choice-restrictions on producers that then lead to higher food costs, felt mainly in the third world.

‘The Heinz-affect: food security blues’ by Matthew Cawood (Stock & Land, 29/06/2011) reported conference speaker Dr Geoffrey Annison’s concerns over control of Australia’s food supply chain and decreasing trade performance.

With the lead up to and the announcement of the Federal Government’s Carbon Tax the Institute has been sought widely for comment. Stock & Land ran an article titled, ‘PC fuels carbon debate’ (15/06/11). ABC Rural’s article ‘Carbon tax and carbon farming hotly debated in rural communities’ quoted AFI that, ‘Farm businesses will be hurt by the introduction of an Australian carbon tax’.

You start with a price on carbon and carbon emissions, the two main sources of that, that will impact farmers, are fuel and electricity, that is what the carbon price is aiming to do.

That will mean that those costs will increase for farmers, and also anything related to those costs will increase, so things like road transport and freight will obviously increase.

Out and about

Recently the Institute’s Executive Director, Mick Keogh, has spoken at:
- GRDC Farm Business Management Update, Adelaide
- United Dairy Farmers’ Conference, Sale, Victoria
- Tasmanian Farmers & Graziers Association 2011 Policy Forum, Launceston, Tasmania
- NSW Department of Primary Industries symposium, Wagga Wagga, NSW
- Meat & Livestock Australia Meat Profit Day, Eidsvold, Queensland
- Monaro Farming Systems Carbon Day, Cooma, NSW
- Gippsland Agribusiness Forum Victorian Agribusiness Summit, Warragul, Victoria
- Guylian Group, Sydney
- Riverine Plains and National Australia Bank ‘Farming Business Beyond 2011 – What Next!’ Seminar, Corowa, NSW
- NSW Farmers’ Association Annual Conference, Sydney Olympic Park.