

Senate Standing Committee on Rural and Regional Affairs and Transport

ANSWERS TO QUESTIONS ON NOTICE

Supplementary Budget Estimates October 2008

Agriculture, Fisheries and Forestry

Question: ABARE 01

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: The effect of government policy on Australian agriculture

Hansard Page: 114 (20/10/08)

Senator Ian Macdonald asked:

Senator Ian MACDONALD—You have agreed that you have been doing work as ABARE in your role as an adviser to rural industries in Australia through the department? What would be really useful to the committee is if we could have details of the work you have done and conclusions you have drawn if not from a whole-of-government's point of view on designing a policy then on how it might affect rural industries if—

Mr Glyde—We have publications on that and we would be more than happy to provide those publications to you

Answer:

ABARE has undertaken research reviewing a range of the issues around the inclusion of agriculture in an emissions trading scheme. The results of this research are in:

Gunasekera, D., Ford, M. and Tulloh, C. 2007, 'Climate change: issues and challenges for Australian agriculture and forestry', *Australian Commodities*, vol. 14, no. 3, September quarter, pp. 493–515.

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Agriculture, Fisheries and Forestry

Question: ABARE 02

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Projected carbon sequestration through afforestation

Hansard Page: 115/6 (20/10/08)

Senator Boswell asked:

Senator BOSWELL—The Garnaut report states under key assumptions that with emission removal there is a potential for 143 million CO₂ per year for 20 years using 9.1 million hectares of land. That is a lot of land. Let me put it in perspective. If we took every piece of land growing wheat in Victoria and South Australia—wheat, barley, canola, the lot—that is roughly about 9.1 million hectares. That is on table 22, page 543. Can you tell me where this 9.1 million hectares is located? Where are we going to find 9.1 million hectares and which areas of Australia are being talked about?

Dr O'Connell—That is obviously a number out of the Garnaut report and as that is not our report the best thing for us is to take that on notice and try and discover where—

Answer:

The potential of 143 million tonnes of carbon dioxide per year presented in the Garnaut Climate Change Review: Final Report (Garnaut 2008) was originally cited from Polglase et al. (2008). This report suggests that the land suitable for conversion to forestry includes areas west of the Great Dividing Range and extending through Victoria and NSW up to the Queensland border, southern and south-eastern South Australia and parts of Tasmania and south-west Western Australia.

We have attached Polglase et al. (2008). for your information.

Polglase, P, Paul, K, Hawkins, C, Siggins, A, Turner, J, Booth, T, Crawford, D, Jovanovic, T, Hobbs, T, Opie, K, Almeida, A and Carter, J, 2008, *Regional Opportunities for Agroforestry Systems in Australia*, Canberra.

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Agriculture, Fisheries and Forestry

Question: ABARE 03

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Modelling of the food processing industry at ABARE

Hansard Page: 118 (20/10/08)

Senator Colbeck asked:

Mr Glyde—Our model has the capacity to look at impacts right across the economy—different sectors throughout the economy—at the impacts on growth and employment and the like, but we have not done any of the modelling in recent times for the Carbon Pollution Reduction Scheme. The model is being used, along with other models, by the Treasury team that Mr Gibbs referred to.

Senator COLBECK—But did you not say earlier that you had done some work with respect to agriculture and that was feeding into the process. Has any of the work that you have done included the impact on the manufacturing portion of the agricultural sector?

Mr Glyde—I would have to take that on notice in terms of the extent to which we have broken out in the various models we have done, the manufacturing part as opposed to the growing part.

Answer:

No work has been done on the impact on the manufacturing portion of the agricultural sector.

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Question: ABARE 04

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Impact of forestry on agricultural production

Hansard Page: 122 (20/10/08)

Senator Williams asked:

Senator WILLIAMS—Mr O’Connell, you would be aware that a substantial amount of agriculture land is being planted down to trees either through MISs or carbon sinks. Has the department done any projections or estimations on the loss of agriculture production, food production, through increasing permanent plantings of agricultural land down to trees?

Dr O’Connell—We might be able to help you in due course with the Australian Bureau of Agricultural and Resource Economics, I suspect. We could hold it for ABARE.

Senator WILLIAMS—Could you take that on notice and actually give us a reply? Likewise, with the increase in national parks. Toorale Station at Bourke is an example where 90,000 hectares, I think, used to run 30,000 sheep and irrigation, et cetera, but it will be made into a national park now that the New South Wales and federal governments have purchased it. What is the projection of the loss of agricultural production, food production, because of so much land over the last five, six or eight years being put down to national parks? The reason I ask this question is because Australia is a vital food producer, not only for Australia but for many parts around the world, and if we keep putting land down to trees, we cannot eat trees. How much production are we going to lose, how many exports, how much volume of actual gross agricultural production will be lost through carbon sinks and national parks? That is what I would like to know?

Dr O’Connell—I will have to take the national parks question on notice. I do not think we have any figures here that we could give you.

Answer:

The Australian Bureau of Agricultural and Resource Economics (ABARE) has not undertaken any analysis of the impact of conversion of land for afforestation on agricultural or food production. Nor have we analysed the impacts of the expansion of the National Park estate on food production. However, 90,000 hectares represents a very small percentage of the around 440 million hectares under agriculture in Australia (ABARE 2007).

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Agriculture, Fisheries and Forestry

Question: ABARE 05

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Report to the Department of Climate Change on the carbon price

Hansard Page: 139 (20/10/08)

Senator Siewert asked:

Mr Glyde—We have provided a report to the Department of Climate Change. We have provided some information also to the Garnaut review but that information has not been published. In relation to the report to the Department of Climate Change, that has been published?

Dr Gunasekera—Yes.

Mr Glyde—We are happy to provide that to you, Senator.

Senator SIEWERT—Okay.

Answer:

As requested, a copy of the report from ABARE to the Department of Climate Change in August 2008 is attached.

ABARE (Australian Bureau of Agricultural and Resource Economics), 2008, *Estimated Threshold Carbon Prices for Investment in Carbon Sink Forests*, ABARE report for the Department of Climate Change, Canberra.

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Agriculture, Fisheries and Forestry

Question: ABARE 06

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Impact of the carbon price on forestry plantations

Hansard Page: 139 (20/10/08)

Senator Siewert asked:

Senator SIEWERT—Okay. Have you looked at any of the relationships between the carbon sink tax deductions—and you have heard the discussion that we have been having on and off all day—and the price in promoting plantations?

Mr Glyde—I am not quite sure about that. I do not think we have done specific work on that but I would have to just check in terms of some of the scenarios that we might have run for DCC, whether or not we have done that. So can I take that on notice?

Senator SIEWERT—Yes, that would be appreciated.

Answer:

The Australian Bureau of Agricultural and Resource Economics prepared a report for the Department of Climate Change on the threshold carbon price (ABARE 2008).

This report provides insight into the price needed to promote plantations across different regions of Australia. A copy of this report is already provided as a response to ABARE 61.

ABARE (Australian Bureau of Agricultural and Resource Economics), 2008, *Estimated Threshold Carbon Prices for Investment in Carbon Sink Forests*, ABARE report for the Department of Climate Change, Canberra.

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Question: ABARE 07

Division/Agency: Australian Bureau of Agricultural & Resource Economics

Topic: Purchasing water in the Murray Darling Basin

Hansard Page: Written

Senator Siewert asked:

In relation to the ABARE Report Purchasing water in the Murray Darling Basin – October 2007

The report recommends on page 1 that, ... "where environmental benefits are not independent of where water is purchased [1] **an environmental index will be needed** to compare the environmental benefits derived from purchasing water from different irrigation systems within a physically connected system, or across irrigation systems in physically disconnected systems"

My understanding of this is that they are saying that to be able to evaluate whether a particular purchase provides value for money, we need a way to evaluate the value of a particular ecosystem (or the ecosystem services it delivers) and the benefits the water will deliver...

1. Is this correct?
2. What response have you had from DEWHA on this recommendation?
3. In your analysis, is it possible for the government to conduct an effective water purchasing plan and demonstrate that it has made sensible purchasing decisions to meet its objectives of transparency, accountability and value for money ... if it does not develop an environmental index?
4. Would you need an ongoing monitoring and evaluation program to properly develop this index?

Answer:

1. It will be important to assess the environmental benefits derived from water purchases. This could be done using non-market valuation methods, where a dollar value would be placed on the benefits of different environmental water purchases. However, collecting the scientific and economic information necessary for robust non-market valuation is likely to be difficult and very expensive. As an alternative, the ABARE report discusses the possibility of using a simplified environmental index to inform decision making. Such an index could include information on how the water attached to a given entitlement could be used, including the ability to water environmental assets, the vulnerability of those assets, and the nature of their watering requirements (flood, minimum flow, etc.). For example, water purchased further up a

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Question: ABARE 07 (continued)

connected water system may be capable of watering more environmental assets than water purchased further down the system, in which case it should receive a higher ranking.

2. ABARE has not been consulted on constructing an environmental index since delivering the report.
3. ABARE has not investigated this issue.
4. Most of the information needed to develop a simple environmental index is scientific in nature. ABARE is not in a position to provide advice on whether it is necessary to have an ongoing monitoring and evaluation program to develop such an index.

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Question: ABARE 08

Division/Agency: Australian Bureau of Agricultural & Resource Economics

Topic: Strategic market behaviour

Hansard Page: Written

Senator Siewert asked:

I note in a number of places you warn of the risk of 'strategic market behaviour' – by which I assume you mean collusion – in auctions and in targeted purchases...

1. Can you explain how this is likely to take place and what are the most appropriate mechanisms to manage this risk?
2. What consultations have you had with DEWHA on how to manage collusion risks?
3. In your analysis, are the water purchase mechanisms and safeguards currently being deployed by the Commonwealth in the previous and current water purchase rounds sufficient to manage the risk of collusion?

Answer:

1. ABARE has not analysed the likelihood of collusion or investigated the existence of collusion in the first round of tenders. The report outlines a number of ways of reducing collusion, including the use of reserve prices, closed bidding, discriminatory (rather than uniform) tenders, and increasing the number of participants.
2. ABARE provided the report to DEWHA and has had no further discussions on ways to manage collusion risks.
3. ABARE has not analysed the safeguards being used by the Commonwealth to manage the risk of collusion.

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Question: ABARE 09

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Impact of higher farm input prices

Hansard Page: Written

Senator Williams asked:

What have the massive increases in inputs experienced by farmers done for farm profitability?

Answer:

Farm profitability depends on both revenue from the sale of farm outputs and expenditure on purchases of farm inputs and is influenced by a range of variables including management and drought. Profitability is therefore highly variable between farms, sections and regions.

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Question: ABARE 10

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Input costs of fuel, chemicals and fertiliser under a carbon price

Hansard Page: Written

Senator Williams asked:

What impact will the Government proposed emissions trading scheme have on input costs such as fuel, chemicals and fertilisers?

Answer:

The report released by the Commonwealth Treasury on the Carbon Pollution Reduction Scheme, *Australia's Low Pollution Future - The Economics of Climate Change Mitigation*, provides the most comprehensive analysis of the impacts of the proposed emissions trading scheme on the Australian economy.

The Australian Bureau of Agricultural and Resource Economics (ABARE) has not undertaken analysis of the Government's proposed emissions trading scheme.

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Question: ABARE 11

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Impact of drought

Hansard Page: Written

Senator Williams asked:

1. What has been the economic impact of the drought on the Australian economy over the past five years?
2. Please provide a yearly breakdown of the impact.

Answer:

In the 2002-03 drought, the decline in agricultural output is estimated to have directly reduced economic growth in Australia by around 0.72 percentage points (table 1).

In 2006-07, lower agricultural production because of drought is estimated to have directly reduced economic growth in Australia by around 0.5 percentage points.

Table 1: Agriculture GDP and contribution to Australian economic growth^a

	Agriculture GDP	Growth	Australian GDP	Share of GDP	Contribution to GDP growth
	\$m	%	\$m	%	%
2002-03	17856	-25.7	878305	2.0	-0.72
2003-04	23322	30.6	913666	2.6	0.62
2004-05	24344	4.4	939692	2.6	0.11
2005-06	25078	3.0	967454	2.6	0.08
2006-07	20248	-19.3	999687	2.0	-0.50
2007-08	21748	7.4	1037027	2.1	0.15

^a Chain volume measures with 2005-06 as the reference year.

Source: Australian Bureau of Statistics 'National Income, Expenditure and Product 2008'

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Agriculture, Fisheries and Forestry

Question: ABARE 12

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Regional impact of drought

Hansard Page: Written

Senator Williams asked:

Which regions have been hit the hardest?

Answer:

Based on latest available ABARE survey data, the most drought affected regions in terms of the volume of farm production have been Tasmania, the pastoral zones of New South Wales and South Australia, the wheat-sheep zone of New South Wales and parts of the Victorian wheat-sheep zone.

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Agriculture, Fisheries and Forestry

Question: ABARE 13

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Impact of the drought on winter crop production

Hansard Page: Written

Senator Williams asked:

Which regions have or will have their winter crops wiped out this year because of the drought?

Answer:

Rainfall in the critical September and October months was well below average in Victoria, parts of South Australia and southern and central NSW, resulting in widespread crop failures in these areas.

In South Australia, the Yorke Peninsula is in a better position than the Eyre Peninsula, Lower North, Murray and Mallee regions.

In New South Wales, the north of the state and most of the central west are expecting average to above average yields on the back of late September and early October rainfall. Conversely, crops in the western areas of the state and much of the south are in poor condition, with widespread crop failures in south western New South Wales.

A late frost across much of Western Australia's grain producing region has resulted in some crop losses and may adversely affect quality.

Harvest in Queensland has commenced and yields across the state have generally been average to above average.

Crop Production

	Wheat		Barley		Canola	
	2007-08	2008-09	2007-08	2008-09	2007-08	2008-09
	Mt	Mt	Mt	Mt	Kt	Kt
Victoria	1.9	1.4	1.1	0.8	200	115
South Australia	2.3	2.3	1.8	1.5	155	150
New South Wales	1.8	6.6	0.7	1.5	44	260
Western Australia	6.1	7.8	2.2	2.2	655	805
Queensland	0.9	1.7	0.2	0.2	N/A	N/A

Source: ABARE Crop Report

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Agriculture, Fisheries and Forestry

Question: ABARE 14

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Impact of the drought on domestic food prices

Hansard Page: Written

Senator Williams asked:

What has been the impact of the drought on domestic food prices?

Answer:

Based on information published by the Australia Bureau of Statistics on the Consumer Price Index, food prices in Australia have risen by 20 per cent in the past 5 years (3.0 per cent in 2003-04, 1.6 per cent in 2004-05, 4.8 per cent in 2005-06, 6.2 per cent in 2006-07 and 3.1 per cent in 2007-08). Within the food group, dairy products have increased by 25 per cent over the past 5 years, bread by 22 per cent, breakfast cereals by 13 per cent, beef by 17 per cent, lamb by 22 per cent, poultry by 20 per cent, fats and oils by 30 per cent, fresh fruit by 33 per cent, fresh vegetables by 27 per cent and eggs by 20 per cent.

Although drought would have contributed to some extent to these increases, it is not possible to say what the exact contribution would have been. Other factors would also have contributed to these prices increases, including higher costs for labour, fuel and transport.

In addition, Australia is a major exporter of food commodities, exporting around 60 per cent of all food commodities produced. As a result, movements in international agricultural commodity prices also have an impact on Australian agricultural commodity prices. In the past five years, for example, in nominal terms, indicative world prices for wheat have increased by 116 per cent, rice by 177 per cent, corn by 88 per cent, sugar by 61 per cent, beef by 50 per cent, butter by 240 per cent, cheese by 186 per cent and skim milk powder by 165 per cent.

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Question: ABARE 15

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Farm debt

Hansard Page: Written

Senator Williams asked:

What is the current average debt for the average farm for each commodity group? ie dryland farming, beef, sheep, mixed farming, poultry, pork, citrus, horticulture, dairy?

Answer:

Based on ABARE farm surveys, the estimates of average farm business debt by commodity group are presented as follows.

Grains industry

Farm business debt averaged around \$700 000 per cropping farm in mid 2007, with debt averaging around \$750 000-800 000 for farms generating more than 50 per cent of receipts from crops and \$650 000-700 000 for farms generating between 20 and 50 per cent of receipts from crops.

Beef industry

Farm business debt averaged around \$830 000 per farm in northern Australia and \$500 000 per farm in southern Australia in mid 2007.

Dairy industry

Preliminary estimates indicate that business debt for dairy farms averaged around \$520 000 in mid 2008, with significant variations among regions: \$962 000 in Tasmania, \$730 000 in South Australia, \$420 000 in Northern Victoria and Riverina, \$374 000 in western Victoria and \$363 000 in Gippsland. Improved cash flows in 2007-08 allowed some dairy farms to reduce their debt.

Sheep industry

For producers of slaughter lambs, business debt in 2006-07 averaged more than \$1.4 million for producers who sold more than 2000 lambs for slaughter, \$700 000 for producers who sold between 1000 and 2000 lambs for slaughter and around \$400 000 for producers who sold between 200 and 1000 lambs for slaughter.

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Question: ABARE 15 (continued)

Horticulture

Average business farm debt in the Murray Darling Basin at mid 2007 ranged from around \$1.2 million in the Border Rivers region to \$790 000 in the Goulburn-Broken region, \$342 000 in the Macquarie-Castlereagh region and \$125 000 in the Loddon-Avoca region.

ABARE farm surveys do not cover pork, poultry and citrus.

Farm business debt is defined as debt owed by the farm business, excluding leasing finance. Personal non-business related debt owed by the farm operator is not included.

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Question: ABARE 16

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Farm debt

Hansard Page: Written

Senator Williams asked:

1. What is the debt burden currently on agriculture according to the RBA?
2. How much has it increased over the past 10 years?
3. Please provide a region by region breakdown for each of the previous 10 years.

Answer:

1. Based on information supplied by large lending institutions to the RBA, rural indebtedness was around \$58.2 billion in 2007-08 (see table 1).
2. This represents an increase of 175 per cent from \$21.2 billion in 1997-98.
3. ABARE does not have sufficient information to breakdown this data series by region.

Table 1 Rural indebtedness (\$million)

	All banks	Pastoral and other finance companies	Other Government	Total
1997-98	18 566	1 979	609	21 154
1998-99	20 085	1 093	661	21 840
1999-2000	23 240	2 527	663	26 430
2000-01	25 174	2 639	701	28 514
2001-02	26 829	2 691	711	30 231
2002-03	28 957	1 628	867	31 452
2003-04	34 115	3 379	891	38 385
2004-05	39 261	3 112	977	43 350
2005-06	43 546	3 352	1 073	47 971
2006-07	47 187	2 542	1 293	51 023
2007-08	53 743	3 076	1 417	58 236

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Question: ABARE 17

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Global financial crisis

Hansard Page: Written

Senator Williams asked:

Will the credit crisis impact on the ability of farmers to borrow money to fund next years winter crop, or replanting of permanent plantings or for restocking purposes devastated by the drought?

Answer:

The impact of the global financial crisis on farmers' ability to borrow money to fund their businesses will be dependent on a number of factors, chief of which are the banking sector and other lenders' availability of funds, farm equity levels and farm financial performance.

ABARE is not in a position to comment on the liquidity or lending practices of the financial sector. However, in recent years, farm indebtedness has increased significantly, as producers invested in new capital to increase productivity and expand the size of their farms. Despite this increase, ABARE surveys indicate that, in general, farmers have been able to maintain their equity in their farm businesses at high levels because of increasing land values.

While considerable uncertainty remains in terms of the economic impacts of the global financial crisis, the farm sector as a whole appears to be in a reasonable position to finance ongoing operations.

The Minister for Agriculture, Fisheries and Forestry, the Hon. Tony Burke MP, held a special meeting of the Agricultural Finance Forum (the forum) on 17 October 2008 to discuss the global financial crisis, its impact on farming families, rural small business and agricultural industries and the measures being taken by banking and financial institutions, and the Government in response to the crisis. The forum noted that the agricultural sector was not homogenous and that different commodity groups in different regions would be experiencing different conditions. Some farmers were struggling and the high global costs of fuel and fertilisers, on top of the impact of the drought, are having a significant impact on the viability of some farm businesses. The forum expressed confidence in the capacity of the financial institutions to continue to service Australia's farmers and overall, expressed "cautious optimism" in the immediate term for Australian agriculture and "strong optimism" in the medium-to-long term.

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Question: ABARE 18

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Emissions Trading Scheme

Hansard Page: Written

Senator Williams asked:

1. What will be the impact on the average Australian farm of the Government's proposed emissions trading scheme if agriculture is not included in the initial emissions trading scheme?
2. Please provide a breakdown of the cost per commodity (based on average farm size of each commodity group; ie wheat/winter cereals/dryland, irrigated cereals/cotton, beef, dairy, horticulture, wool, fat lamb, citrus, stone fruit, fishing and forestry)?

Answer:

1. The analysis of the proposed emissions trading scheme undertaken by the Commonwealth Treasury, *Australia's Low Pollution Future - The Economics of Climate Change Mitigation*, is the best available source of information on the impact of the scheme.

The Australian Bureau of Agricultural and Resource Economics (ABARE) has not undertaken analysis of the Government's proposed emissions trading scheme.

2. Not applicable.

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Question: ABARE 19

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Emissions Trading Scheme

Hansard Page: Written

Senator Williams asked:

1. Has the Government done any economic modelling to provide the cost of an emissions trading scheme for each commodity group whether agriculture is in the ETS or not?
2. What was the result of that modelling and at what price was a tonne of carbon priced?

Answer:

1. The Australian Bureau of Agricultural and Resource Economics (ABARE) has not undertaken work on the cost of an emissions trading scheme for each commodity group.

However ABARE has released an illustrative analysis with partial estimates of the impact of a carbon price on agricultural production costs in a symposium paper, 'Climate change: Opportunities and challenges in Australian agriculture', Proceedings of Faculty of Agriculture, Food & Natural Resources Annual Symposium 2008, on 13 June 2008 at the University of Sydney.

2. These estimates were modelled assuming a price of \$40 per tonne of carbon dioxide equivalent and expressed as changes in emissions intensive input costs for the Australian livestock and cropping sectors. The model results were presented for two separate scenarios.

The first scenario assumed that agricultural emissions are initially excluded from the emissions trading scheme. However, farmers would still be responsible for indirect emissions costs in fuel, electricity, freight and chemicals. Production costs in the Australian livestock sector are estimated to increase by 3 per cent at 2030 relative to the no carbon price scenario. The emissions intensive input costs in the cropping sector are estimated to increase by about 4.5 per cent at 2030 relative to the no carbon price scenario.

The second scenario assumed that all agricultural emissions, both direct and indirect, are included in the emission trading scheme. These direct emissions are assumed to include nitrogen losses from agricultural land and methane emissions from livestock. Production costs in the Australian livestock are estimated to increase by 18 per cent at 2030 relative to the no carbon price scenario. Production costs in the cropping sector are estimated to increase by 6 per cent at 2030 relative to the no carbon price scenario.

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Agriculture, Fisheries and Forestry

Question: ABARE 20

Division/Agency: Australian Bureau of Agricultural & Resource Economics

Topic: Impact of water buy backs on cost of food and food security

Hansard Page: Written

Senator Williams asked:

What impact are and will Australian Government policies such as the \$3.6 billion water buy backs have on increasing the cost of food and exacerbating the current global food security situation?

Answer:

The Australian Bureau of Agricultural and Resource Economics (ABARE) is currently undertaking research on the food security issue in general. This work does not include any assessment of the impact of water buy backs on food security. ABARE is not aware of any specific research on this issue.