Senate Standing Committee on Rural and Regional Affairs and Transport

ANSWERS TO QUESTIONS ON NOTICE

Additional Estimates February 2007

Agriculture, Fisheries and Forestry

Question no: ABARE 01

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Oil Prices
Hansard page: 100 (14/02/07)

Senator McGauran asked:

Senator McGauran—When was the last time it was $45?
Dr Sheales—Probably about a year ago. I would have to look it up. I do not know exactly. But we have moved from there.
Senator McGauran—It is 1990 prices you are predicting for 2011.
Dr Sheales—In real terms?
Chair—Yes, in real terms.
Dr Sheales—It is probably a bit below that, but I would have to check.

Answer:

The last time the world price of oil was '$45' was in the first half of 2005 (the world trade weighted price of oil averaging US$44.73 a barrel in the period January-June 2005).

In its March Quarter 2007 *Australian Commodities*, The Australian Bureau of Agriculture and Resource Economics (ABARE) projected the world trade weighted price of oil to average US$47.38 a barrel in 2011, equivalent to US$43.26 a barrel in 2007 US dollars.

The world trade weighted price of oil averaged US$21.47 a barrel in 1990, equivalent to US$33.97 a barrel in 2007 US dollars.

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ANSWERS TO QUESTIONS ON NOTICE

Additional Estimates February 2007

Agriculture, Fisheries and Forestry

Question no: ABARE 02

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Carbon cost modelling
Hansard page: 101 (14/02/07)

Senator Siewert asked:

Senator Siewert—How are you modelling the cost of carbon if you are not modelling any in some of the other predictive work that you are doing?
Mr Glyde—I make a distinction between the work that we do in relation to forecasting and the very long run modelling that we do for looking at the various costs and benefits of different mitigation strategies. They are two quite separate activities. As you have seen in the various publications that ABARE has put out over the last few years, you can quite explicitly model various prices of carbon, various carbon taxes or emissions trading regimes. I can provide the references to you, if that would help.
Senator Siewert—That would be useful.

Answer:

The following is a list of Australian Bureau of Agriculture Resource Economics (ABARE) recent publications that examine carbon taxes and emissions trading regimes:

Jakeman, G. and Ford, M. 2006, 'Climate Change Policies: integrating developing countries into the architecture of policies', *Australian Commodities*, vol. 13, no. 4, pp. 697–704.

Ahammad, H., Matysek, A., Fisher, B.S., Curtotti, R., Gurney, A., Jakeman, G., Heyhoe, E. and Gunasekera, D. 2006, *Economic Impact of Climate Change Policy: The Role of Technology and Economic Instruments*, ABARE Research Report 06.7, Canberra, July

Ford, M., Matysek, A., Jakeman, G., Gurney, A. and Fisher, B.S. 2006, 'Perspectives on International Climate Change', Presented at the Australian Agricultural and Resource Economics Society, 50th Annual Conference, Sydney, Feb 2006.

Jakeman, G. and Fisher, B.S. 2006, Benefits of Multi-Gas Mitigation: An Application of the Global Trade and Environment Model (GTEM), *The Energy Journal*, *Multi-Greenhouse Gas Mitigation and Climate Policy*, Special Issue No. 3, pp. 323–342.

Matysek, A., Ford, M., Jakeman, G., Curtotti, R., Schneider, K., Ahammad, H. and Fisher, B.S. 2005, *Near Zero Emissions Technologies*, ABARE *e*Report 05.1 to the Department of Industry, Tourism and Resources, Canberra, January.

Jakeman, G., Hanslow, K., Hinchy, M. and Fisher, B.S 2004, Induced innovations and climate change policy, *Energy Economics*, vol. 26, pp. 937–960.
Pant, H. and Fisher, B.S. 2004, 'The welfare consequences of emission trading with pre-existing taxes', Presented at the 7th Annual Conference on Global Economic Analysis, Jun 17–19 2004.

Jakeman, G., Hester, S., Woffenden, K. and Fisher, B.S. 2002, 'Kyoto Protocol: the first commitment period and beyond', *Australian Commodities*, vol. 9, no. 1, pp. 176–97.

Tulpulé, V. 2001, 'Assessing the impacts of the Kyoto Protocol', ABARE Conference Paper 2001.11.

Polidano, C., Jotzo, F., Heyhoe, E., Jakeman, G., Woffenden, K. and Fisher, B.S. 2000, *The Kyoto Protocol and Developing Countries: Impacts and Implications for Mechanism Design*, ABARE Research Report 2000.4, Canberra.

Tulpulé, V., Brown, S., Lim, J., Polidano, C., Pant, H. and Fisher, B.S. 1999, 'The Kyoto Protocol: an economic analysis using GTEM', *Energy Journal, Kyoto Special Issue*, pp. 257–85.

Question no: ABARE 03

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Commodity outlook for live sheep and cattle trade
Hansard page: 104 (14/02/07)

Senator McGauran asked:

Senator McGauran—What about the live sheep and cattle trade?
Dr Sheales—For the live sheep trade I do not have any numbers readily to hand. The main constraint on that, of course, is the availability of suitable sheep, particularly out in the west, and I think we were talking about four to five million head, but I would have to double-check that.

Answer:

Live sheep exports in 2005-06 amounted to 4.2 million, some one million more than in the previous year. However, numbers shipped are forecast to decline to around 3.8 million in 2006-07 due to reduced supplies of sheep suitable for the trade and likely competition from producers moving to rebuild flocks.

The downturn in shipments is likely to be relatively short lived as demand for live sheep in the Middle East remains strong because of ongoing increases in consumer incomes. The rate of future growth in the Australian trade in live sheep is likely to be constrained, however, by the availability of suitable sheep and strong competition from other supplying countries (such as South Africa). Live sheep exports are projected to recover to around 4.2 million by 2011-12.

Live cattle exports are forecast to grow 9 per cent to 600 000 head in 2006-07. The increase reflects a greater supply of animals suitable for live export in northern Australia due to favourable seasonal conditions and higher calving rates, together with stronger demand in Indonesia and Israel, Australia's largest export markets. Australian live cattle exports in 2007-08, are forecast to increase by a further 10 per cent to 660 000 head, driven largely by an expansion in the supply of cattle.

Over the next five years, lower cattle prices and an assumed depreciation of the dollar will make Australian live exports more attractive to importing countries. Assuming average seasonal conditions over the outlook period, an increase in the available supply of suitable cattle is expected to further underpin growth in the live trade. Reflecting this, live cattle exports are projected to rise by 32 per cent to 790 000 by 2011-12.

Question no: ABARE 04

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Commodity outlook for wool
Hansard page: 105 (14/02/07)

Senator Nash asked:

Senator Nash—How far out have you forecast for?
Dr Sheales—I am talking about this current season, to the middle of the year.
Senator Nash—Have you done any work further out than that?
Dr Sheales—We will be releasing that next month, but we have not done it yet so I cannot even hazard guess, to be perfectly frank with you.
Senator Nash—You might like to supply the committee with the information when it comes to hand.
Dr Sheales—We will be supplying everyone with the information when we have it ready.

Answer:

World economic activity and consumer incomes, competition between wool and other fibres, and changes in relative returns from wool and sheep meat will be important factors influencing wool production and market outcomes over the next five years.

Modest economic growth in key wool consuming markets is expected to result in improvements in overall demand for textiles and apparel, some of which will include increased demand for items made from wool. However, competition from substitute fibres, especially synthetics, will place downward pressure on wool prices.

In the five years to 2011-12, the eastern market indicator price of Australian wool is projected to fall by 15 per cent to around 710 cents a kilogram (in 2006-07 dollars). However, with wool stocks expected to remain low, there is likely to be considerable volatility in wool prices stemming principally from season related supply shocks.

Despite easing, wool prices are likely to remain relatively attractive to producers and result in some movement of resources back into sheep. Sheep numbers are projected to rise 10 per cent to 104 million by 2011-12. Relative returns will affect the types of sheep run and, hence, the amounts of wool, lamb and mutton produced.

Over the five years to 2011-12, shorn wool production is projected to increase 13 per cent to 473 000 tonnes. Reflecting an easing in prices, the value of wool exports is projected to fall 4 per cent to around $2.7 billion (in 2006-07 dollars).

Question no: ABARE 05

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Commodity outlook for pork and chickens
Hansard page: 108 (14/02/07)

Senator O'Brien asked:

Senator O'Brien—What about pork and chickens?
Dr Sheales—In relation to pork, despite high grain prices—and maybe partly because of that—pork prices have been a bit better in the past, say, 12 months than they were previously. That is mainly because production of pork is down. We are talking about production in the past 12 months being about 380,000 tonnes versus 390,000 the previous year, which is not a great difference, I admit, but average prices have been 260c a kilo versus 232c, so that is a pretty substantial increase. Some of that might be reflecting that pork is out there competing with beef, lamb and chicken in the one marketplace. If prices of some of the competing meats are bit higher or, more importantly, if the supply is a bit down, pork producers will benefit. Given that we import pork, I imagine that there is also an issue with the prices at which imports are coming in. They may be a bit higher, but I would have to check that.

Answer:

As suggested, prices of imported pork in calendar 2006 were higher, averaging about 7 per cent greater than in 2005.

Australian pig meat saleyard prices are forecast to average 265 cents a kilogram in 2006-07. However, over the five year outlook period, they are expected to fall in real terms, driven largely by increased imports from Denmark and Canada and declining real retail prices for substitute meats, particularly beef and lamb. Saleyard prices in 2011-12 are projected to average around 200 cents a kilogram (in 2006-07 dollars).

Reflecting some easing in prices and consolidation in the industry in order to be more competitive in the market place, the Australian sow herd is projected to decline to almost 280 000 by 2011-12, nearly 5 per cent below the estimated June 2007 figure. As a result, Australian pig meat production is projected to fall to 355 000 tonnes in 2011-12, around 5 per cent below that estimated for 2006-07

Australian imports of pig meat are forecast to grow by 20 per cent in 2006-07, to around 87 000 tonnes (shipped weight). The trend to higher imports is expected to continue, with imports of pig meat projected to reach 107 000 tonnes in 2011-12, some 23 per cent above the forecast 2006-07 figure.

Australian pork exports are forecast to fall by 4 per cent in 2006-07 to 41 500 tonnes (shipped weight), as a result of a relatively strong Australian dollar against the US dollar and reduced Australian production. Over the medium term, demand for Australian pig meat exports is projected to fall, reflecting increased competition from lower priced pig meat from key exporting countries. By 2011-12, Australian pig meat

exports are projected to be around 33 000 tonnes, 21 per cent below the estimated 2006-07 amount.

Australian poultry meat production is forecast to rise 3 per cent to around 842 000 tonnes in 2006-07. By 2011-12, production is projected to grow another 8 per cent to 907 000 tonnes.

An assumed depreciation in the Australian dollar is expected to aid an increase in Australian poultry meat exports over the medium term. In 2011-12, poultry meat exports are projected to reach around 26 000 tonnes, 18 per cent above forecast 2006-07 levels.

Question no: ABARE 06

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Research on ethanol
Hansard page: 110 (14/02/07)

Senator O'Brien asked:

Senator O'Brien—I think the last question I asked was about ethanol. Is there any work that has been published or is all the work you have done secret?
Mr Glyde—No. The work that Dr Sheales referred to was published, and it was published as part of the Biofuels Taskforce report. It was also published separately. We are happy to give you a copy of that, if you like.
Senator O'Brien—Yes, thank you.

Answer:

The Australian Bureau of Agriculture Resource Economics (ABARE) analysis undertaken for the Biofuels Taskforce was included as Appendix 3 of the Taskforce's final report and can be obtained from the Department of the Prime Minister and Cabinet web site at:

http://www.pmc.gov.au/biofuels/report/appendix_3.pdf

Question no: ABARE 07

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Research on ethanol
Hansard page: 110 (14/02/07)

Senator O'Brien asked:

Mr Glyde—And, as Dr Sheales said, we are doing some work for Outlook as well, which we can provide you at that stage.

Answer:

At Outlook 2007, held 6-7 March 2007, Australian Bureau of Agriculture Resource Economics (ABARE) released a short paper on biofuels entitled, 'Outlook for Biofuels in Australia'. The paper is contained in ABARE's March Quarter 2007 *Australian Commodities* (pp. 212-220), which can be downloaded from ABARE's web site at:

http://www.abareconomics.com/publications_html/ac/ac_07/ac_mar07.pdf

Question no: ABARE 08

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Research on the impact of climate change
Hansard page: 110 (14/02/07)

Senator O'Brien asked:

Senator O'Brien—That was work done under the climate variability program, was it? There was a program run by this department on climate variability for agriculture. Was that the program that funded your research?
Mr Glyde—I am not sure. That is probably a question best directed to the Natural Resource Management Division. We could probably take that on notice and find out what the funding sources are, if you like, but they would definitely have been one of the funders.
Senator O'Brien—Would you do that, because we said we did not need them, so—

Answer:

Below is a list of Australian Bureau of Agriculture Resource Economics (ABARE) research on natural resource management issues that have a particular focus on climate change and their funding sources:

Kokic, P., Nelson, R., Potgieter, A. and Carter, J. 2004, *An Enhanced ABARE System for Predicting Farm Performance*, ABARE eReport 04.6 Prepared for Land and Water Australia, Canberra, February.
Funding: Land and Water Australia

Nelson, R. and Kokic, P. 2004, *Forecasting the Regional Impact of Climate Variability on Australian Crop Farm Incomes*, ABARE eReport 04.23 Prepared for the Grains Research and Development Corporation, Canberra, December.
Funding: Grains Research and Development Corporation

Kokic, P., Heaney, A., Pechey, L., Crimp, S. and Fisher, B. 2005, Climate Change: Predicting the Impacts on Agriculture: A Case Study, *Australian Commodities*, vol. 12, no. 1.

Funding: DAFF under the Climate Policy Research and Economic Analysis Project for the Natural Resource Management Division.

Nelson, R., Kokic, P., Elliston, L. and King, J. 2005, Structural adjustment: A Vulnerability Index for Australian Broadacre Agriculture, *Australian Commodities*, vol. 12, no. 1.

Funding: DAFF under the Resource Management and Farm Sustainability Project for the Natural Resource Management Division

Beare, S. and Heaney, A. 2002, '*Climate change and water resources in the Murray* Darling Basin, Australia' ABARE Conference Paper 02.11.
Funding: DAFF under the Managing Water Resources Project for the Natural Resource Management Division.

The most recent project on the impacts of climate change, 'Impacts of climate change on Australian agriculture' was funded by DAFF ($115 000) sourced from the National Landcare Programme. This project is due to be completed in April 2007.

Question no: ABARE 09

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: National plantation based resource
Hansard page: 111 (16/02/07)

Senator O'Brien asked:

Senator O'Brien—What can you tell us—and you may not be equipped to today—about the national plantation based resource?
Dr Sheales—I do not have any information to even help me answer that. We have a forestry group. It is very small. They tend to collect statistics and publish some of those. They may do a few other things, but I am not across that. I understand—and maybe I could be corrected—that the BRS collects some forestry statistics, which may in fact be what you are after, but you will have to ask that when the time comes, please.
Mr Glyde—I can take it on notice, Senator.

Answer:

Australian Bureau of Agriculture Resource Economics (ABARE) collects annual data relating to the volume and value of timber removals from forest plantations in Australia. ABARE publishes this data twice a year in the Australian Forest and Wood Products Statistics (AFWPS).

In 2005-06 it was estimated that 3.8 million cubic metres of logs were harvested from hardwood plantations and 14.4 million cubic metres from softwood plantations. In the same year the value of plantation hardwood log removals (valued at milldoor prices) was estimated at $237 million (a rise of 57.4 per cent over the previous year), while the value of softwood log removals was $845 million (a rise of 0.4 per cent).

The Bureau of Rural Sciences (BRS) also collects data relating to the area under plantation forests and the annual rate of plantation establishment in Australia. This data is published under the National Plantation Inventory and also is published in the AFWPS.

In 2005, the plantation area in Australia was estimated to be 1.7 million hectares, 57 per cent of which were softwoods, and 43 per cent hardwoods. In recent years the majority of plantation investment has been directed toward hardwood plantations. In 2005, the BRS estimated that 65 550 hectares of new hardwood plantations were established, while new softwood plantation establishment was 6 480 hectares.

Question no: ABARE 10

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: GM grains – Reasonable level of cleaning
Hansard page: 114 (14/02/07)

Senator Nash asked:

Senator Nash—When ABARE said 'reasonable level of cleaning', what was your definition of 'reasonable level of cleaning'?
Mr Glyde—I am afraid that I do not have that information.
Senator Nash—Could you take that on notice for me.
Mr Glyde—Yes

Answer:

'Reasonable levels of cleaning' means levels of cleaning that achieve levels of unintended presence of Genetically Modified (GM) that are acceptable in all markets for Australian grain.

Question no: ABARE 11

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: GM grains – truck queuing rules
Hansard page: 115 (14/02/07)

Senator Nash asked:

Senator Nash—Okay. Give me two seconds. I have been really good all day. You may well have to take this on notice:
Third, it is possible to alter which group of growers bears the additional costs through altering the truck queuing rules at the central receival site. If, for example, it is decided that GM grain growers should bear all the additional costs and not non-GM grain growers, then the queuing time could be lengthened for GM producers and shortened for other grain producers.
Could you explain what that means and how the length of the queue is going to affect what your return is going to be?
Mr Glyde—I knew we should have brought the author of the report with us.
Senator Nash—I am sure my office indicated that I was going to ask questions around this.
Mr Glyde—My apologies, because I was not aware of that.
Senator Nash—That is okay. Maybe there was a miscommunication.
Mr Glyde—I was not aware of that.
Senator Nash—If you would not mind taking that one on notice as well for me?

Answer:

The queuing rule at the central receival site — essentially a priority arrangement — could be used to re-allocate additional costs between different groups of growers. For example, a queuing rule that requires that there are three trucks in the queue for a particular grain before that queue is serviced would have the effect of increasing the queuing time and hence costs for growers for that grain and reducing the costs for growers delivering other grains.

To illustrate the point with an extreme example, the queuing rule at the central receival site could be no deliveries of genetically modified (GM) grain on a particular day. The harvest of GM grain would probably continue, because of the risk of increased weather damage if harvest is delayed. This GM grain would then have to go into on-farm storage, because it cannot be delivered to the central receival site. This means additional costs to the GM growers, mainly in the form of the extra costs associated with putting GM grain in and out of storage. In the mean time, non-GM grains growers would be able to affect deliveries of their grain at a faster rate, which for most means lower on-farm costs, particularly costs related to on-farm storage. That is, who bears the on-farm costs associated with the grain harvesting, transportation and handling task can be markedly changed by the nature of the queuing rule.

Question no: ABARE 12

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: GM grains – cost differences
Hansard page: 115 (14/02/07)

Senator Nash asked:

Senator Nash—That sounds like a very good idea. I think the costs attributed—I do not have it with me—to one of the farms was $331 and $1,119 on two others. But it did not say what that cost was—whether it was per month, per year, or a one-off cost. Do you know what that might have been?
Dr Sheales—You need further elaboration and we would be very happy to give it to you.
Mr Glyde—I am sorry that we do not have the officer here.

Answer:

The costs were for a representative farm in each of the four port zones in Western Australia (Albany, Esperance, Kwinana and Geraldton) in the 2005-06 season — that is, in a single year.

The estimated additional identity preservation costs per representative farm in 2005-06 are Albany, $513; Esperance, $1119; Kwinana, $515 and Geraldton, $315. There is variation between regions due in part to differences in production mixes. For example, there is lower canola production in the Geraldton area which means there are lower certified canola seed costs and fewer cleaning disruptions to the grain receival task.

Question no: ABARE 13

Division/Agency: Australian Bureau of Agriculture and Resource Economics
Topic: Contracting of ABARE by GM growers
Hansard page: 116 (14/02/07)

Senator Heffernan asked:

Chair—You have not been contracted by the GM growers, have you?
Mr Glyde—Not that I am aware of.
Chair—Could we find that out?
Mr Glyde—Yes.
Dr Sheales—Some work has been funded by GRDC and some work funded by our department. On this particular one, I am not sure.
Chair—This is a nutcase scenario.
Mr Glyde—We will give you the funding. I think it came through the National Biotechnology Strategy, but we will confirm that.

Answer:
No Australian Bureau of Agriculture Resource Economics (ABARE) research on genetically modified (GM) crops has ever been funded by 'GM growers'.