

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 01

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Agriculture Debt

Hansard Page: 93-94 (19/10/2009)

Senator Adams asked:

Dr O'Connell—I think I mentioned before that there is, if you like, an element of signal to noise to try to work through here, to the degree that there is a whole lot of other factors that come into play in terms of debt levels and consolidation of farms, as you suggest. All of that would need to be worked through. Certainly ABARE has been looking at the broad issue in terms of its surveys, trying to get an understanding of the status of the farming business in terms of prices of property, debt levels and other things, as it normally does in its business. A lot of work would need to be done in that area.

Mr Glyde—If you are interested, we could provide you with the basic historical material. We survey on a regular basis, so we have information about levels of debt and the extent of land purchases and things like that. We do survey the sorts of issues that you were talking about and we do describe them as they go forward. As Dr O'Connell says, they are complex enough in their own right. We have not looked at how they build on the climate change work. That is why it is often easier to model out to 2030 than to model what is going to happen next year. We would be more than happy to provide that to you, if you like.

Senator ADAMS—Yes. I would appreciate that. Where I am coming from is not from the top down but from the bottom up. This is involving people and these are our communities that we represent. At the moment, as I said, there is uncertainty. I am not playing politics here. I am just really concerned about where we are going.

Answer:

Historical data on total farm business debt and debt servicing are provided in answer to a question from Senator Nash.

Current and historical data on land purchases are shown in table 1. This table shows the proportion of broadacre and dairy farms buying land. These data are sourced from ABARE surveys of broadacre and dairy farms.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 01 (continued)

From 1998-99 to 2002-03 the proportion of commercial scale broadacre and dairy farms buying land exceeded 6 per cent in each year. The proportion of farms buying land has since declined to be below the long term average of 5 per cent annually.

Factors that may influence the extent to which farmers purchase farm land include land prices (current and future), returns per hectare, debt levels and climatic conditions (such as drought). According to ABARE surveys data, average land values for broadacre farms more than doubled between 2001-02 and 2007-08 with the largest increases occurring in high rainfall regions and the pastoral areas of northern Australia. The increase in average land values has been particularly large compared with receipts generated per hectare of land. Average returns per hectare have been relatively flat over the past seven years as a result of drought in many regions.

Table 1: Proportion of farms acquiring land, broadacre and dairy farms

Financial year	Farms acquiring land %
1989-90	7.0
1990-91	3.4
1991-92	4.8
1992-93	5.8
1993-94	5.4
1994-95	4.5
1995-96	4.8
1996-97	4.7
1997-98	5.9
1998-99	6.3
1999-00	7.1
2000-01	6.3
2001-02	9.4
2002-03	6.5
2003-04	5.5
2004-05	4.2
2005-06	5.8
2006-07	4.7
2007-08	4.2

Source: ABARE Australian Agricultural and Grazing Industries Survey and Australian Dairy Industry Survey.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 02

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Modelling of the impact of the CPRS on debt levels in agriculture.

Hansard Page: 94 (19/10/2009)

Senator Adams asked:

Dr O'Connell—The issues that you are raising are not ones that the sort of modelling that ABARE is looking at can address. ABARE is not looking at that scale or timing.

Senator ADAMS—But the problem is that the overall policy is going to affect these people, and that is really where I was coming from. Is anyone doing that sort of modelling? You are doing surveys. But is anyone else doing modelling that I can get information from?

Mr Glyde—Not that I am aware of. I can take that on notice and have a look around to see if any of the universities are doing anything. We could have a look to see if there is anything like that. I am not aware of anything like that.

Answer:

ABARE has not been able to identify any modelling research conducted by universities analysing the impact of the proposed CPRS on farmers' decision making and their financial position.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 03

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: CPRS and agriculture

Hansard Page: 94 (19/10/2009)

Senator Williams asked:

Mr Glyde—We have done two pieces of work, as I mentioned earlier. We have done long-term work that looked at each of the sectors and broadacre as a whole. Similarly, we have done short-term work that has broken that down by sector as well.

Senator WILLIAMS—Can you give me offhand some of the results of that work? Do you have any results there?

Dr O’Connell—Those are covered by the same report with all the same discussion around that being a spreadsheet based exercise.

Mr Glyde—I would be happy to draw out the relevant tables and send them to you, if that would help—

Senator WILLIAMS—That would be good, thanks.

Answer:

ABARE has previously analysed the potential short term and long term effects on the agriculture sector of the CPRS in its originally proposed form. However, the two papers that resulted do not reflect the amendments to the CPRS settings announced in November 2009 (Carbon Pollution Reduction Scheme Bill 2009 – Supplementary Explanatory Memorandum, 26 November 2009).

In the November amendments, the Government made a policy commitment to exclude agriculture indefinitely from the CPRS. A commitment was also made to establish an offsets market that is compliant with Australia’s international climate change obligations, and also to provide credits for agricultural emissions abatement. The Government also proposes to promote a voluntary market for offsets.

The short term ‘initial impacts’ of the original CPRS settings were examined in the paper ‘Effects of the Carbon Pollution Reduction Scheme on the economic value of farm production,’ released on 1 June 2009 (<http://www.abare.gov.au/insights/>).

The potential longer-term effects of the original CPRS settings on the agriculture sector were considered in the ABARE paper ‘Agriculture and the Carbon Pollution Reduction Scheme (CPRS): economic issues and implications,’ released on 3 March 2009 (<http://www.abare.gov.au/insights/>).

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
 Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 04

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Carbon price and forestry

Hansard Page: 95 (19/10/2009)

Senator Williams asked:

Mr Glyde—We have done some research in the past where we looked at, as Mr Quinlivan mentioned earlier, what the carbon price would have to be before you saw a change in land use from an agricultural land use to a forestry land use. Again, I would be happy to provide the specifics on notice. I just do not have them to hand. But we published some work—

Senator WILLIAMS—You are referring to the price of carbon.

Mr Glyde—Yes.

Senator WILLIAMS—At what level would the price of carbon have to go to where farmers would be better off planting trees than growing food?

Mr Glyde—That is exactly right.

Dr O’Connell—We have had some discussions at previous estimates. We can pull out the information that was relevant then. I do not think there is anything new that has been done. So we can update what we were previously provided.

Answer:

The most recent ABARE estimates of threshold carbon prices for agricultural farms with median returns in several regions, which were presented by the Department of Climate Change in its submission to the Senate Inquiry into the Implementation, Operation and Administration of the Legislation Underpinning Carbon Sink Forests and any Related Matter (DCC 2008), are provided in Table 1.

Table 1: Estimated threshold carbon prices for various land use activities

Land use scenario	Rainfall zone	Threshold carbon price (\$/t CO ₂ -e)
Grazing	Low to Medium rainfall	162 – 314
Broadacre Cropping		162 – 314
Grazing	High rainfall	141
Dairy		352 – 379
Sugar		199
Vegetables		283

Threshold carbon price estimates presented for the zero fencing scenario
 Source: ABARE (2008) as presented in DCC (2008)

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 04 (continued)

ABARE defines threshold carbon prices as the carbon prices at which the estimated present value of net returns from carbon sink forests becomes equal to the corresponding net returns for a representative agriculture farm in Australia.

The estimates are based on specific assumptions regarding the discount rate, carbon sequestration rates, forest establishment and management costs, and land values, and correspond to an average farm in each industry and rainfall zone category.

The ABARE estimates of threshold carbon prices, presented in Table 1, are based on zero fencing costs. The corresponding estimates based on a non-zero fencing cost of \$800 per hectare are published in an ABARE paper entitled “Opportunities for forestry under the Carbon Pollution Reduction Scheme (CPRS): an examination of key factors”. The paper is available on the ABARE website at:
http://www.abare.gov.au/publications_html/ins/insights_09/a1.pdf

References.

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

Department of Climate Change, 2008, Submission to the Senate Standing Committee on Rural and Regional Affairs and Transport Inquiry into the Implementation, Operation and Administration of the Legislation Underpinning Carbon Sink Forests, and any Related Matter, Submission 45, Canberra, July.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 05

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Agriculture Debt

Hansard Page: 95-96 (19/10/2009)

Senator Nash asked:

Senator NASH—The department very kindly replied to a question on notice from me from the last estimates around the debt burden and indicated that rural indebtedness was around \$58.2 billion in 2007-08, which was an increase of 175 per cent over that decade. From 2006-07 to 2007-08 the debt burden on agriculture increased by around \$7 billion. I am just interested in what work ABARE may have done or may not have done in terms of what that debt load means to the sustainability of regional communities and the viability of farmers.

Mr Glyde—As I mentioned earlier on, we do collect that data in terms of level of indebtedness. Someone might be able to help me.

Senator NASH—If you do not do it, that is fine. I am just trying to ascertain if you do or not or if anybody does.

Mr Glyde—We also collect information in relation to the purpose for which that debt has been got. So we will have some understanding of the purpose to it. Debt is not all bad and people borrow in order to invest in their properties. You need to get an understanding of the nature of the debt.

Senator NASH—Sorry, I cannot hear. You were saying you did have that additional information?

Mr Glyde—We have some information. I do not know whether it is sufficient to completely answer your question.

Senator NASH—In the interests of time, I am very happy if you would like to take that on notice and supply any of that information that you have got and if ABARE does have any view having looked at the additional information on how serious that debt load is in terms of future sustainability.

Answer:

Data sourced from the Reserve Bank of Australia and published by the Australian Bureau of Agricultural and Resource Economics (ABARE) showing how total business debt for the agriculture, forestry and fisheries sector has changed over time is provided in table 1. Given that agriculture accounts for around 90 per cent of the sector's total gross value of production it is reasonable to assume that agriculture accounts for a similar proportion of the sector's business debt.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 05 (continued)

Total agriculture, forestry and fisheries sector debt rose broadly in line with the increase in the total gross value of agricultural production over the 30 years to 2001-02 (Table 1). However, in the period since 2001-02 total sector debt has increased faster than the gross value of agricultural production.

Further ABARE surveys of farms in the broadacre and dairy sectors indicate that the majority of the increase in aggregate farm debt since 2001-02 has been to finance land purchase and fund investment in plant, machinery, vehicles and farm improvements. However part of the increase has also been to finance the working capital requirements of farms, including shortfalls in farm receipts relative to farm costs, particularly in low income years as many farms have had reduced farm incomes as a consequence of prolonged drought.

According to ABARE surveys, in the seven years between 2001-02 and 2007-08, the increase recorded in farm debt averaged \$323,000 per farm. The increase debt to finance land purchase averaged \$180 000 per farm for broadacre and dairy farms. The increase in debt to cover working capital requirements over the seven year period averaged \$95 000 per farm and the increase in debt to finance plant, machinery, vehicles and farm improvements averaged \$48 000 per farm

Table 1: Sector indebtedness and the gross value of farm production

Financial year	Total sector indebtedness to financial institutions^a	Gross value of farm production (GVP)^b
	\$billion	\$billion
1969-70	2.0	3.7
1980-81	4.3	11.6
1990-91	11.7	21.2
2000-01	28.5	34.8
2001-02	30.2	39.9
2002-03	31.5	33.2
2003-04	38.4	37.4
2004-05	43.4	36.5
2005-06	48.0	38.5
2006-07	51.0	35.9
2007-08	58.2	41.2

a Derived from all banks lending to agriculture, fishing and forestry sector and compiled by the Reserve Bank of Australia. b Australian Bureau of Statistics data.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 05 (continued)

Financial institutions lend to farm businesses on the basis of both the capacity of farm businesses to service increased debt and the equity farmers have in their business. In recent years, there has been an increase in the value of agricultural land that has boosted the equity that most farmers have in their farm businesses despite the increases in farm debt. Over the same time period interest rates have generally been low which has had the effect of reducing the debt servicing ratio (that is, the proportion of farm cash income needed to cover interest payments) (Table 2).

The debt servicing ratio reached a high of 45 per cent in 2006-07 as severe widespread drought affected all states and resulted in low farm cash incomes (total farm cash receipts less total farm cash costs) (Table 2). Improved seasonal conditions in 2007-08 resulted in some improvement in the capacity of farms to service debt. In 2008-09, further improvement in farm cash incomes combined with low interest rates led to the debt servicing ratio falling back to an average 29 per cent – although at this level the ratio is still relatively high in historical terms.

Although the overall amount of farm business debt is historically high compared with the value of agricultural production, ABARE farm survey data show that relatively few farms are currently estimated to have both low farm equity and high debt servicing ratios. However, as noted above, farm equity levels will vary if there are changes in the value of agricultural land.

Table 2: Debt servicing ratio, broadacre and dairy farms

Financial year	Debt servicing ratio a
	%
1988-89	21
1989-90	25
1990-91	37
1991-92	35
1992-93	28
1993-94	23
1994-95	25
1995-96	22
1996-97	22
1997-98	23
1998-99	22
1999-00	20
2000-01	18
2001-02	14
2002-03	26

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 05 (continued)

2003-04	26
2004-05	22
2005-06	26
2006-07	45
2007-08	38
2008-09p	29

a Debt servicing ratio defined as the percentage of farm cash income needed to cover interest payments. p Provisional data.

Source: ABARE Australian Agricultural and Grazing Industries Survey and Australian Dairy Industry Survey.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 06

Division/Agency: Australian Bureau of Agricultural and Resource Economics
Topic: Australian exchange rate assumption
Hansard Page: 97 (19/10/2009)

Senator Colbeck asked:

Dr Penm—In formulating our commodity forecast for the September quarter we assumed the value of the Australian dollar was an average US83c for the financial year as a whole. We do not make any assumptions for point value of the Australian dollar. We only make assumptions in terms of the average for the financial year. So far in this financial year the Australian dollar has averaged around US84c but currently it is trading at around US91c. Over the past few weeks the value of the Australian dollar has appreciated very significantly.

Senator COLBECK—In the March quarter, for example, what was the assumption that you made for the out year on that and the previous quarter before that?

Dr Penm—I can provide you with some answers on notice. I know that we have been progressively increasing our exchange rate assumptions. When we were formulating our exchange rate assumptions for the March quarter, at that time the Australian dollar was trading significantly below US80c. It would not have been practical, given the difficulties in forecasting the exchange rate—we would have assumptions which would have given a lower value for the Australian dollar.

Answer:

In the March quarter 2009, ABARE used an Australian dollar assumption of US68c for 2009-10 as a whole to prepare its commodity forecasts.

In the December quarter 2008, ABARE used an Australian dollar assumption of US70c for 2008-09 as a whole. No exchange rate assumption was made for 2009-2010 as ABARE does not provide commodity forecasts for the coming financial year in its December quarter publications.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 07

Division/Agency: Australian Bureau of Agricultural and Resource Economics
Topic: Marginal land
Hansard Page: (19/10/2009)

Senator Nash asked:

Senator NASH—Dr O’Connell, we had a discussion at the last estimates around marginal land and the definition of ‘marginal land’. It was quite a lengthy discussion—I think it was also with Mr Glyde—at a very late hour of the evening.

Dr O’Connell—I suspect it was Mr Glyde, yes.

Senator NASH—But we did have an exchange about the definition, and there was some confusion around the different types: whether we were talking about physical marginal land, where you cannot do X, Y or Z sorts of things, or whether it was economically marginal. At the time, you did agree that there should be some attention given to the terminology and some work to be done on that. I wondered if the department did, indeed, follow on from your thoughts of last estimates and do some work in terms of clarifying that definition of ‘marginal land’ which you so kindly agreed to look at.

Mr Glyde—We did provide an answer to that, but I do not have it with me. Rest assured we are onto it.

Senator NASH—Thank you. Could you give me a rough time frame for how long you think it might take you to do some determination in regard to the terminology?

Mr Glyde—I would like to review the answer that we provided to the previous question before I give that. I am struggling to remember exactly where we got to on that issue, so perhaps I can come back to you—we will be here for a while tonight after BRS has finished—and give you a precise answer.

Senator NASH—That would be good. If you cannot do that tonight—and I would hope that you could—perhaps you could take on notice to come back to the committee as soon as possible with a time frame for a determination around the terminology

Mr Glyde—Senator Nash asked me to follow up on a question in relation to the definition of ‘marginal land’. I need to ask Senator Nash a clarifying question, if that is okay.

Senator NASH—Please do.

Mr Glyde—We have had the opportunity to go back and look at the answers that we provided, both in May and in February, in relation to your question. We provided maps, as requested in the question on notice, to demonstrate where the areas of marginal land were referred to in the ABARE modelling. I understand what you now would like to see is actually a definition of what ABARE used and how it describes ‘marginal land’.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 07 (continued)

Senator NASH—Exactly.

Mr Glyde—We will come back on that basis.

Senator NASH—When we had the discussion last time, you were not able to get a proper definition of ‘marginal land’ because there were both capacities of ‘marginal land’—in terms of use of that land and also land that was economically marginal.

Answer:

Please see response to ABARE 08

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 08

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: Marginal land and the CPRS

Hansard Page: Written

Senator Nash asked:

In a media conference with the Minister for Climate Change and Water, on the 25th February 2009, The Minister for Agriculture, Fisheries and Forestry, stated; *'Now, the Government has always acknowledged that you do need to have some land-use change, and that will be an implication and an outcome of the White Paper. But our advice has always been that we'd be looking at marginal land.'* The Minister also stated; *'The advice that came back to me was that under the White Paper and the proposals that are there, prime agricultural land would not be at threat. It would be marginal land, where the economics stacked up, for people to be looking at doing more tree-planting.'*

1. What will be the 'land-use change' the Government has always acknowledged that you do need which will be an implication and an outcome of the Government's Emissions Trading Scheme referred to by the Minister?
2. Where will that 'land use change' take place and how will it take place?
3. How many hectares of trees are estimated to be planted under the Government's Emissions Trading scheme?
4. What is the definition of 'marginal land' that the Minister was referring to when he stated *'our advice has always been that we'd be looking at marginal land'*? (please provide maps of land which the Government considers 'marginal' and on what basis it is referred to as marginal ie rainfall, carrying capacity etc).

Answer:

1. The Carbon Pollution Reduction Scheme (CPRS) will change relative prices in the economy and in general less emission intensive activities will be advantaged which is likely to result in land use change as farmers seek to maximise returns from their land.
2. The magnitude and location of land use change will depend on many site-specific factors, including the availability of water, the carbon price and expected returns from agricultural industries vis-a-vis commercial forestry and environmental plantings. Under the CPRS, market forces will determine land use change.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 08 (continued)

3. No estimate or forecast has been made of the area of trees that may be planted under the government's proposed CPRS.
4. When discussing marginal land or marginal farming activities, ABARE generally refers to land or farms with relatively low value in terms of the potential return from agricultural pursuits. It is this land that will move into environmental plantings as the potential returns from carbon sequestration per hectare exceed the returns from agriculture. The amount of land falling into this 'marginal' category will change as the carbon price changes relative to the value of agricultural pursuits on any given parcel of land, and so mapping would depend on these variables.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 09

Division/Agency: Australian Bureau of Agricultural and Resource Economics

Topic: ABARE input to carbon price and emissions targets

Hansard Page: Written

Senator Nash asked:

The Minister during the press Conference on the 25th of February, 2009 also stated; *'The carbon price that's been spoken about, the emissions targets that have been set, were then put through ABARE.'*

1. Is this information publicly available?
2. Is this work that was 'put through ABARE' reflected in 'Analysing the economic potential of forestry for carbon sequestration under alternative carbon price paths' produced by ABARE in November 2008 which was commissioned by The Commonwealth Treasury to estimate the potential increase in afforestation on agricultural land under four hypothetical carbon price scenarios or is it different advice?
3. If the work that has been 'put through ABARE' is not the modelling in the document 'Analysing the economic potential of forestry for carbon sequestration under alternative carbon price paths' publicly available and does it supersede the work commissioned by Treasury?

Answer:

1. Yes. The information on the carbon price and emissions targets proposed by the Government is publicly available in The Commonwealth Treasury's modelling of the Carbon Pollution Reduction Scheme (CPRS) (see Australian Government 2008). The ABARE work in question is documented in an ABARE report (Lawson et al. 2008), that is publicly available on The Commonwealth Treasury's website.
2. Yes. The ABARE work in question is documented in the ABARE report *Analysing the economic potential of forestry for carbon sequestration under alternative carbon price paths* (see Lawson et al. 2008). This ABARE work was commissioned by The Commonwealth Treasury to estimate the potential increase in afforestation on agricultural land under four alternative carbon price paths as part of the CPRS modelling, and was published on the Treasury website in November 2008.
3. Not applicable.

Senate Rural and Regional Affairs and Transport Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Supplementary Budget Estimates October 2009
Agriculture, Fisheries and Forestry

Question: ABARE 09 (continued)

References

Lawson, K, Burns, K, Low, K, Heyhoe, E and Ahammad, H, 2008, *Analysing the economic potential of forestry for carbon sequestration under alternative carbon price paths*, Canberra, November.

Australian Government 2008, *Australia's Low pollution future: The economics of climate change mitigation*, Australian Government, Canberra.

<http://www.treasury.gov.au/lowpollutionfuture/default.asp>