## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 1

Program: 1.1

**Division/Agency:** ASCD

**Topic:** ETS Advertising Campaign

**Hansard Page EC:** Written

## **Senator Birmingham asked:**

I refer to an article by Lenore Taylor in *The Sydney Morning Herald* of 2 October 2010 regarding abandoned plans for an ETS advertising campaign.

- 1. What was the message of this campaign?
- 2. How much was it going to cost?
- 3. How would it have run?

#### **Answer:**

In December 2009, the Department drafted a campaign strategy for the Carbon Pollution Reduction Scheme module of the *Integrated Advertising Campaign on Climate Change*.

Potential campaign options were considered internally within the Department. However, no advertisements were developed as the campaign did not proceed.

# Supplementary Budget Estimates 2010-2011, October 2010

# **Answers to questions on notice**

# Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 2

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Cleaner Car Rebate

**Hansard Page EC:** EC 30-31

#### **Senator Abetz asked:**

Can I ask whether the department had any input into the government's announcement about the cash for clunkers policy?

#### **Answer:**

The department provided estimates of abatement and fuel savings for a rebate scheme involving scrapping of pre-1995 cars.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 3

**Program:** 1.1

**Division/Agency:** CSMD

**Topic:** Abatement

**Hansard Page EC:** EC 37

#### **Senator Abetz asked:**

**Senator ABETZ**—In relation to the Home Insulation Program, has the department done any assessment on whether, at the end of the day, this was a completely negative scheme given the 200 fires, the amount of CO2 that went into the atmosphere, the fossil fuels of the trucks and vans that had to go to all of these houses, the checking, the ripping out of insulation, the putting in of new insulation or the insulation that will be going to landfill. I would have thought that, potentially, this may be a program that has a negative outcome. I would be interested if all those factors were taken into account as well.

**Dr Parkinson**—Can we discuss those under output 1.2?

**Senator ABETZ**—Take it on notice, unless you are telling me that you have some answers to that.

**Dr Parkinson**—No, I think we will have to take it on notice.

#### **Answer:**

The Department prepares abatement estimates on a range of programs that focus on the most important factors. In the case of the insulation program that installed insulation in over one million houses the most material inputs are the life of the insulation and the changes in fuel usage in the household. The Department has not sought to quantify other aspects of the program.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 4

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Correspondence – Roundtables

**Hansard Page EC:** Written

## **Senator Birmingham asked:**

What communication took place with Members of the Business Roundtable on Climate Change and the NGO Roundtable on Climate Change relating to their appointments? Please detail dates of any correspondence both prior to and confirming these appointments, and provide copies.

#### **Answer:**

Membership of the Business Roundtable on Climate Change and the Non-Government Organisation (NGO) Roundtable on Climate Change was determined by the Government and announced by media release on 18 October 2010.

The Department is aware of a letter being sent to each NGO Roundtable on Climate Change participant to confirm their appointment. A copy of the standard letter of invitation is at <u>Attachment A</u>. Issues relating to the Business Roundtable on Climate Change should be directed to the Treasury.



# The Hon Tony Burke MP Minister for Sustainability, Environment, Water, Population and Communities

# The Hon Greg Combet AM MP Minister for Climate Change and Energy Efficiency

[Address block]

Dear [Non-government Organisation Roundtable on Climate Change participant],

Thank you for accepting the Australian Government's invitation to participate in the Non-Government Organisation Roundtable on Climate Change (the Roundtable).

The Roundtable includes leaders from across the non-government sector, representing a diversity of experience and bringing different perspectives about introducing a price on carbon. We look forward to working closely with you on this important issue, including seeking your advice on the issues of household assistance, jobs growth and sustainability surrounding climate change.

The Government is committed to establishing a carbon price. The Roundtable presents an opportunity for us to work together to develop a comprehensive understanding of the challenges and opportunities that such a change will present to the Australian community. Ultimately the Government is working to deliver a lasting economic reform that will support a healthy economy and environment as the world moves to reduce carbon emissions.

The first Roundtable meeting will be held at Parliament House in Canberra from 2:00pm to 4:00pm on Friday 26 November 2010. Officers from the Department of Climate Change and Energy Efficiency will be in contact with you regarding arrangements and to provide you with papers for the first meeting. Skye Laris, Chief of Staff to Minister Burke (02 6277 7640) and Kristin Tilley, Senior Adviser to Minister Combet (02 6277 7920) are also available to provide any additional assistance you may require in advance of the first Roundtable meeting.

Enclosed for your information is the Roundtable Terms of Reference.

We look forward your contribution through the Roundtable during the coming months.

Yours sincerely

**GREG COMBET** 

TONY BURKE

## Supplementary Budget Estimates 2010-2011, October 2010

## **Answers to questions on notice**

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 5

**Program:** 1.1

**Division/Agency:** CSMD

**Topic:** Multi-Party Climate Change

Committee

**Hansard Page EC:** Written

## **Senator Birmingham asked:**

- 1. What Budget has been assigned to the Climate Change Committee?
- 2. How many staff will provide support, at what cost?
- 3. Please detail any advertising campaigns being planned.
- 4. What is the communications budget?
- 5. On what basis will the advertising or communications campaigns be run?
- 6. What public meetings will be held?
- 7. Why were Mr Dreyfus and Mr Bandt added to the committee?
- 8. Do they have voting rights?
- 9. Will they engage in discussion or simply secretarial duties?
- 10. Is there any pairing or proxy arrangement, for example to ensure a Government majority should a Government MP fail to attend any meeting?

#### **Answer:**

- 1. As announced by the Minister for Climate Change and Energy Efficiency, the Hon Greg Combet AM MP, and the Parliamentary Secretary for Climate Change and Energy Efficiency, the Hon Mark Dreyfus QC MP, on 9 November 2010, funding of \$5.2 million has been allocated in the 2010-11 Mid-Year Economic and Fiscal Outlook (MYEFO) to establish both the Multi-Party Climate Change Committee (MPCCC) and for the Garnaut Climate Change Review update. Additional resources will be drawn from across the Department to support the MPCCC as required.
- 2. A secretariat comprising eight staff members has been established to manage logistical arrangements associated with the MPCCC, the Non-Government Organisation Roundtable on Climate Change, and the Secretaries Group for the MPCCC. Staff from across the Department and from The Treasury (in relation to modelling matters) will support the MPCCC as required.
- 3. The MPCCC is not planning any advertising campaigns.

- 4. If funding is required for communications, it will be drawn from the funds allocated in the 2010-11 MYEFO to establish both the MPCCC and for the Garnaut Climate Change Review update.
- 5. No advertising campaigns are currently being planned.
- 6. This is a matter for the consideration of the MPCCC.
- 7. Parliamentary Secretary Dreyfus and Mr Adam Bandt MP are not MPCCC members. They are invited to attend meetings of the MPCCC to assist the MPCCC as required.
- 8. Parliamentary Secretary Dreyfus and Mr Bandt are not members of the MPCCC and do not have voting rights.
- 9. This is a matter for the consideration of the MPCCC.
- 10. No.

# Supplementary Budget Estimates 2010-2011, October 2010

## **Answers to questions on notice**

# Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 6

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Citizens' Assembly

**Hansard Page EC:** Written

## **Senator Birmingham asked:**

1. Was the Department consulted on the creation of a Citizens' Assembly?

- 2. What advice did the Department provide in relation to the Assembly?
- 3. Did the Department make an assessment as to the cost?

#### **Answer:**

- 1. The Department of Climate Change and Energy Efficiency was not consulted on the creation of a Citizens' Assembly.
- 2. Not applicable.
- 3. No, the Citizens' Assembly was costed by the Department of Finance and Deregulation under the Charter of Budget Honesty.

# Supplementary Budget Estimates 2010-2011, October 2010

# Answers to questions on notice

# Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 7

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Carbon tax

**Hansard Page EC:** Written

## **Senator Birmingham asked:**

- 1. Does the Department support moves towards a carbon tax?
- 2. If not, why not?
- 3. Is the Department still making recommendations to the Government regarding a carbon tax?

## **Answer:**

- 1. The Department continues to support the Government and the Multi-Party Climate Change Committee in exploring a range of options to introduce a carbon price. One of these options is a carbon tax.
- 2. Not applicable.
- 3. Please see response to part 1.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

# Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 8

**Program:** 1.1

**Division/Agency:** CSMD

**Topic:** RECs

**Hansard Page EC:** EC 73

#### **Senator Boswell asked:**

**Senator BOSWELL**—...How many RECs do you believe will be there at the end of this year?

**Mr Comley**—I do not have an updated estimate.

**Senator BOSWELL**—At the end of December, which is a calendar year?

Mr Comley—I will take that on notice.

#### **Answer:**

To address the risk of a large supply of renewable energy certificates (RECs) in the period to the end of 2010, the changes to the Renewable Energy Target legislation in June 2010 contained a contingency arrangement whereby the annual targets under the Large-scale Renewable Energy Targets (LRET) would be increased if, as at 31 December 2010, the stock of valid RECs exceeded 34.5 million. Under this arrangement, the annual targets for 2012 and 2013 would each be increased by half of the excess RECs above 34.5 million. To offset these increases, the 2016 to 2019 targets would each be reduced by a quarter of the excess.

The number of valid RECs in the REC Registry as at the end of 2010 was 42,576,189, which is an excess of approximately 8.1 million RECs, compared with the 34.5 million threshold. In accordance with the legislation, the Office of the Renewable Energy Regulator has published on its website the adjustments to the annual LRET targets. Details on the number of excess RECs and the adjustments to the LRET targets are available at <a href="https://www.orer.gov.au">www.orer.gov.au</a>.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

# Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 9

Program: 1.1

**Division/Agency:** CSMD

**Topic:** RECs

**Hansard Page EC:** EC 75

## **Senator Boswell asked:**

**Senator BOSWELL**—It will be able to adjust itself but is it going to adjust itself in three years or four years or five years? How many do you estimate? How many RECs estimate there will be at the end of this year?

Mr Comley—I will take that on notice. I do not have a revised estimate in front of me.

## **Answer:**

Please refer to the response to Question on Notice No. 8.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 10

**Program:** 1.1

**Division/Agency:** CSMD

**Topic:** Wind abatement

**Hansard Page EC:** EC 75

#### **Senator Boswell asked:**

**Senator BOSWELL**—I have one more question here. This is on wind abatement. You told us earlier that it is going to be about \$50 a tonne. Have you included the extra generation the peaking power plants will need to make up the independence of the wind? Does it include connecting wind farms to the grid? Have you done any work that specifically takes these two massive issues into account? Can you tell me what you have measured in your estimate? Have you looked at the expense of backup transmission costs in your abatement of \$50 a tonne?

**Mr Comley**—My recollection is that the abatement estimates from MMA include the additional grid connectivity of wind. I do not believe—but I can take it on notice—that they include increasing combined cycle gas, because that is not necessarily to generate the amount of electricity. But the overall MMA estimates do include the change in the price of electricity, which would take account of those additional cost factors.

**Senator BOSWELL**—But it does not include the big peaking power plants? **Mr Comley**—I will take it on notice. My understanding is that it takes account of the full impact of the price of electricity. Certainly it takes in the connectivity to the grid. I would have to take on notice the question of the gas peaking.

#### Answer:

Yes. The McLennan Magasanik Associates (MMA) modelling referred to takes into account generation of gas peaking plants and the way they operate in electricity markets. MMA uses a sophisticated and comprehensive model of the electricity market, based on a multi-area probabilistic dispatch algorithm which simulates hour-to-hour operation. As such the MMA model takes into account the cost of generation and transmission infrastructure required to support the integration of renewable technologies including wind power into the electricity market.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

# Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 11

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Multi-Party Climate Change

Committee

**Hansard Page EC:** EC 24

#### **Senator Fisher asked:**

**Senator FISHER**—Are you able to provide the committee with a timetable of meetings, once agreed, for the secretaries group?

**Senator Wong**—Is this a forward?

Senator FISHER—Projected meetings. They have only met—

**Dr Parkinson**—We have only met the once.

**Senator FISHER**—Dr Parkinson said that they are discussing a timetable for meeting and they will meet regularly—probably monthly. Once agreed, are you able to provide the committee with a copy of the timetable for meetings of the secretaries group?

**Dr Parkinson**—I can give you a broad indication. Obviously, to the extent that we are working to service the multiparty committee, we will not always have control over our own meeting dates.

Senator FISHER—Indeed.

Dr Parkinson—I can do what I can to help you on that.

#### **Answer:**

The Secretaries' Group for the Multi-Party Climate Change Committee (MPCCC) has formally met twice since the establishment of the MPCCC. Future meetings of the Secretaries' Group will depend on the scheduling of meetings of the MPCCC.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 12

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Multi-Party Climate Change

Committee

**Hansard Page EC:** EC 29

#### **Senator Fisher asked:**

**Senator FISHER**—Okay. Can you provide on notice information about the budget that has been assigned to the committee and how much it will cost?

**Dr Parkinson**—If we have developed a budget I hope that is the maximum amount it will cost.

**Senator FISHER**—We hope that it is one and the same.

**Dr Parkinson**—Yes, but we will provide information on that on notice.

## **Answer:**

As announced on 9 November 2010 by the Minister for Climate Change and Energy Efficiency, the Hon Greg Combet AM MP, and the Parliamentary Secretary for Climate Change and Energy Efficiency, the Hon Mark Dreyfus QC MP, funding of \$5.2 million has been allocated in the 2010-11 Mid-Year Economic and Fiscal Outlook to establish the Multi-Party Climate Change Committee and to the Garnaut Climate Change Review update.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Ouestion No: 13

**Program:** 1.1

**Division/Agency:** CSMD

**Topic:** Abatement

**Hansard Page EC:** EC37

#### **Senator Milne asked:**

**Senator MILNE**—Has Infrastructure Australia come to you?

**Mr Comley**—I believe it had discussions, but I would have to take on notice to confirm that. **Senator MILNE**—Can you take on notice how many times they have come to you and about which projects.

Mr Comley—I will take that on notice.

#### **Answer:**

The Department of Climate Change and Energy Efficiency and the Prime Minister's Task Group on Energy Efficiency have had numerous communications with Infrastructure Australia. Some examples are:

- Infrastructure Australia had several discussions with the Prime Minister's Task Group on Energy Efficiency over April to June 2010 as input into the Report of the Prime Minister's Task Group on Energy Efficiency.
- Infrastructure Australia discussed the price of carbon emissions in infrastructure appraisals with the Department in early October 2010 when Infrastructure Australia was preparing updated guidelines on infrastructure appraisal. The updated guidelines require the use, in economic appraisal information presented to Infrastructure Australia, of projections of the price of carbon from modelling on the economics of climate change mitigation undertaken by the Australian Treasury for the Australian Government.
- The Department has suggested that Infrastructure Australia use 'evidence of consideration of future impacts from unavoidable climate change' as a criterion in the assessment of infrastructure projects for priority investment.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Ouestion No: 14

Program: 1.1

**Division/Agency:** CSMD

**Topic:** Abatement/land clearing

**Hansard Page EC:** EC 42

#### **Senator Milne asked:**

Mr Comley—I will have to double-check what the 85 million is referring to, because my recollection was that, in the national communication, the deviation from business as usual was actually larger than 85 million, so I think we should check for you this afternoon whether there is land clearing plus 85 million from 'other measures'. But of the deviation from business as usual, I expect the most significant measure is the land clearing.

Senator MILNE—That is what I am trying to get to: whether the 85 megatonnes is—

Mr Comley—I understand the question. We will check on that for you, Senator.

Senator MILNE—You will check on that? Because I just need to know whether the land-clearing laws are in fact the major measure to reduce emissions in that context, so I would appreciate the detail on that.

#### **Answer:**

The abatement estimate of 85 Mt CO<sub>2</sub>-e is from the August 2009 interim projections. An updated estimate of the average annual abatement from current policies and measures over the first Kyoto commitment period (2008-12) is 74 Mt CO<sub>2</sub>-e. This estimate was published in Australia's Fifth National Communication on Climate Change. This abatement estimate includes:

- 34 Mt CO<sub>2</sub>-e from measures in the stationary energy sector;
- 2 Mt CO<sub>2</sub>-e from measures in the transport sector;
- 7 Mt CO<sub>2</sub>-e from measures in the fugitive sector;
- 3 Mt CO<sub>2</sub>-e from measures in the industrial processes sector;
- 10 Mt CO<sub>2</sub>-e from measures in the waste sector; and
- 18 Mt CO<sub>2</sub>-e from land-use change legislation.

# Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Ouestion No: 15

**Program:** 1.1

**Division/Agency:** CSMD

**Topic:** RECs

**Hansard Page EC:** EC 77

## Senator Milne asked:

**Senator MILNE**—What is the answer to the loophole? How many 2010 year generation RECs do you expect to be registered in 2011?

**Mr Comley**—I will take that on notice. I have to follow-up on the issue you are raising. You talk about the generation and that will be taken into account in the target. I will take that on notice.

#### **Answer:**

To address concerns that a potentially large pipeline of renewable energy certificates (RECs) available in the market at the end of 2010 may extend investment uncertainty for renewable energy project developers, the Renewable Energy Target (RET) legislation contains a contingency arrangement whereby the annual targets under the Large-scale Renewable Energy Target will be increased if, as at 31 December 2010, the stock of valid RECs exceeds 34.5 million. A REC is not valid until it has been registered by the Renewable Energy Regulator on the RECs Registry.

Under these arrangements, the annual targets for 2012 and 2013 will each be increased by half of the excess RECs above 34.5 million. To offset these increases, the 2016 to 2019 targets will each be reduced by a quarter of the excess.

A cut-off date for these contingency arrangements for banked RECs is needed to provide certainty as to the mechanism for increasing the targets in 2012 and 2013. Regardless of which deadline date is chosen, there would be an incentive for REC market participants, depending on their circumstances, to bring forward or delay the creation of RECs from pre-deadline generation or system installation.

However, given that RECs provide financial support to assist with the cost of installing small-scale renewable energy systems and generation from large-scale renewable energy projects, they are generally created as soon as possible after the installation or generation occurs.

As such, while it will be possible for RECs from generation and small system installations which occurred in 2010 to be created in 2011, we expect the large majority of RECs relating to this generation and these installations will be created and registered before the end of 2010.

The number of valid RECs in the REC Registry as at 15 November 2010 was 34.8 million. This figure is updated as RECs are registered and can be obtained at any time by visiting <a href="https://www.rec-registry.gov.au/">https://www.rec-registry.gov.au/</a>.

Based on recent trends, the number of valid RECs in the REC Registry as at 31 December 2010 could be in the order of 40 to 45 million.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 16

**Program:** 1.1

**Division/Agency:** Executive

**Topic:** CPRS deferral

**Hansard Page EC:** EC 10

## **Senator Abetz asked:**

**Senator ABETZ**—I fully understand that, but you didn't make any proactive inquiries after the 1.27 pm alert.

**Mr Leeper**—I would have to check that.

**Senator ABETZ**—If you could, please, I would be much obliged.

**Mr Leeper**—Certainly.

#### **Answer:**

There were no other senior officers of the Department of Climate Change and Energy Efficiency in Canberra on the afternoon of 27 April 2010. Consequently, Mr Leeper was not able to discuss the content of media reports until later that evening, as disclosed in the answer to question 1 from the Budget Estimates Hearings.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 17

Program: 1.1

Division/Agency: LD

**Topic:** Carbon Farming Initiative

**Hansard Page EC:** EC 46

## **Senator Birmingham asked:**

**Senator BIRMINGHAM**—Not wishing to take up too much time of the committee, perhaps you could provide on notice a bit of background as to the extent of that proposed initiative, who it is likely to capture and what consultation process has been developed. That would be appreciated.

**Ms Thompson**—We would be happy to do that.

#### Answer:

The Carbon Farming Initiative will enable farmers, forest growers, and land holders to earn carbon credits for sale in the domestic voluntary and international carbon markets. It will unlock abatement opportunities across the land sector, which currently contributes around 23 per cent of Australia's emissions.

The Government intends to introduce legislation for the Carbon Farming Initiative in the first half of 2011, to provide long-term certainty for participants and underpin the environmental integrity and market value of carbon credits. Under the Carbon Farming Initiative, the Government proposes to enable crediting of abatement from a range of land-based activities, including:

- reforestation and revegetation;
- management of existing forests;
- reduced methane emissions from livestock;
- reduced fertiliser emissions:
- manure management;
- reduced emissions or increased sequestration in agricultural soils (soil carbon);
- savanna fire management;
- avoided deforestation;
- reduced emissions from burning of stubble/crop residue;
- reduced emissions from rice cultivation; and
- reduced emissions from landfill waste deposited before 1 July 2011.

The Department of Climate Change and Energy Efficiency is consulting extensively with the forestry industry, agriculture industry, non-government organisations and the states and territories in relation to initial proposals for scheme design. The Department has released a consultation paper on the design of the Carbon Farming Initiative and invited comments to be submitted by 21 January 2011. The Department also held two meetings to discuss the design with key organisations on 19 November 2010.

## Supplementary Budget Estimates 2010-2011, October 2010

## Answers to questions on notice

## Climate Change and Energy Efficiency portfolio

Outcome: 1 Question No: 18

**Program:** 1.1

**Division/Agency:** Land Division

**Topic:** Pew Center report

**Hansard Page EC:** EC 19-20

#### **Senator Milne asked:**

Senator MILNE—Following on from Senator Williams's question and your response about CSIRO doing that assessment, there was also the Pew Center report saying that there was a potential in Central Australia's arid zone to sequester about a billion tonnes additional as a result of feral animals, weed control, range of savannah burning changes and so on. To what extent was there a crossover between CSIRO's analysis that you were just talking about and the Pew Center analysis, or have the two been treated separately, or has the Pew Center analysis even made it onto the program in terms of assessment from the department?

Mr Comley—I think we were looking at the CSIRO report and I would have to check with my colleagues on the Pew Center. If we have anything to add, we can answer on notice.

Senator MILNE—You are familiar with the report I am talking about here.

Mr Comley—Yes.

**Senator MILNE**—Could you take on notice if there is a crossover on what is happening with that Pew Center report.

#### **Answer:**

The Pew Environment Group and The Nature Conservancy on 14 July 2010 released a report entitled *Outback carbon: An assessment of carbon storage, sequestration and greenhouse gas emissions in remote Australia.* The report investigates the greenhouse gas abatement potential from a range of land management measures in remote Australia. The Department has considered the report.

The Pew Center report includes a comparison with the findings of the CSIRO report entitled *An analysis of greenhouse gas mitigation and carbon biosequestration opportunities from rural land use*, published in 2009. The Pew Center report indicates that it includes assessment of land management practices additional to those considered in the CSIRO report. The Pew Center report also notes that its findings on abatement potential are not directly comparable with those of the CSIRO report, as the regions considered in the two reports do not correspond exactly.

The Pew Center estimates of abatement are derived from a simple annual model of carbon stocks in outback Australia in conjunction with expert opinion as to likely abatement potential. The report finds that these activities could deliver cumulative abatement of 1.3 billion tonnes by 2050, rising from 26 megatonnes per year in 2020 to more than 40 megatonnes per year from 2030 onwards.

The Department considers that estimates are plausible given the assumptions on which they are based although the report itself notes that the abatement estimate in 2050 is approximate.

The report may overstate abatement because some of the abatement activities that have been summed in the report could be mutally exclusive in practice and may not be realised at the assumed carbon price.

The report also notes that further research is needed on the abatement that could result from key activities including grazing management and changes to fire management regimes, and estimates for some carbon pools including above and below ground biomass.