

THE CLIMATE INSTITUTE

**MISSING BILLIONS:
HOW THE AUSTRALIAN
GOVERNMENT'S CLIMATE POLICY
IS PENALISING FARMERS**

OCTOBER 2006

SUMMARY

The Climate Institute analysis suggests ratifying the Kyoto Protocol and implementing a national emissions trading scheme today could:

- **provide Australian farmers with an income of \$1.8 billion over the period 2008-2012, due to the emissions saved by limiting broad-scale land clearing.**

Separately, a report to the National Farmers Federation by the Allen Consulting Group in 2006 concluded that a carbon emission trading system which recognised Kyoto Protocol rules could:

- **create an additional income stream of \$0.7-0.9 billion over a five year period from revenue to farmers from forestry sinks.**

These two studies combined suggest that ratification of the Kyoto Protocol and the introduction of a national emissions trading scheme could provide farmers an income stream in the order of \$2.5 billion.

A central tenet of the Federal Government's greenhouse policy for over a decade has been to not ratify Kyoto, but to meet its Kyoto target – a national emissions increase of 8% from 1990 levels, in the period 2008-2012.

Australia's National Greenhouse Gas Accounts show that farmers, by reducing broad-scale land clearing rates since 1990, have offset substantial increases in greenhouse gas emissions from other sectors, mainly energy. Official Federal Government projections show that:

- **without broad-scale land clearing reductions, Australia's greenhouse emissions would be 30% above 1990 levels by 2010.**

Australia's farmers have been responsible for virtually the entire share of the nation's greenhouse gas emissions reductions, but their efforts, worth around \$2 billion, have not been recognised or financially rewarded by the Government.

By reducing broad-scale land clearing, farmers have already reduced greenhouse gas emissions by about 75 million tonnes since 1990. By 2010, the savings are projected to be about 83 million tonnes. This level of emissions reductions is equivalent to eliminating the total annual emissions of New Zealand or Ireland. Over that same period, emissions from energy and transport have and continue to sky rocket. For example, total energy sector emissions are projected to be 45% above 1990 levels by 2010.

In short, farmers have been carrying the greenhouse reduction effort in an

inequitable relationship to other greenhouse polluting sectors in Australia.

The situation is even more unfair to farmers given that it is rural communities that are suffering most from ongoing droughts made worse by the impacts of climate change.

It is arguable whether or not the Federal Government can claim credit for these emission savings. Reductions in broad-scale land clearing have been undertaken by farmers and largely driven by controls implemented by the Queensland and New South Wales Governments to protect biodiversity.

The Federal Government's policy of meeting Australia's Kyoto Protocol target but not ratifying it means farmers are unable to access international market mechanisms, such as international emissions trading. These are available only to countries that have ratified Kyoto.

The Government's refusal to ratify the Kyoto Protocol and implement a domestic carbon price via an emissions trading scheme has meant Australian farmers are unable to convert the emissions reductions they have achieved into financial value and benefit from the growing global carbon market.

In effect, farmers who have made most effort in Australia to date to reduce greenhouse gas emissions are being financially penalised by the current Government policy.

This report has not assessed additional income streams that also exist for farmers – through emission reductions such as renewable energy and soil management.

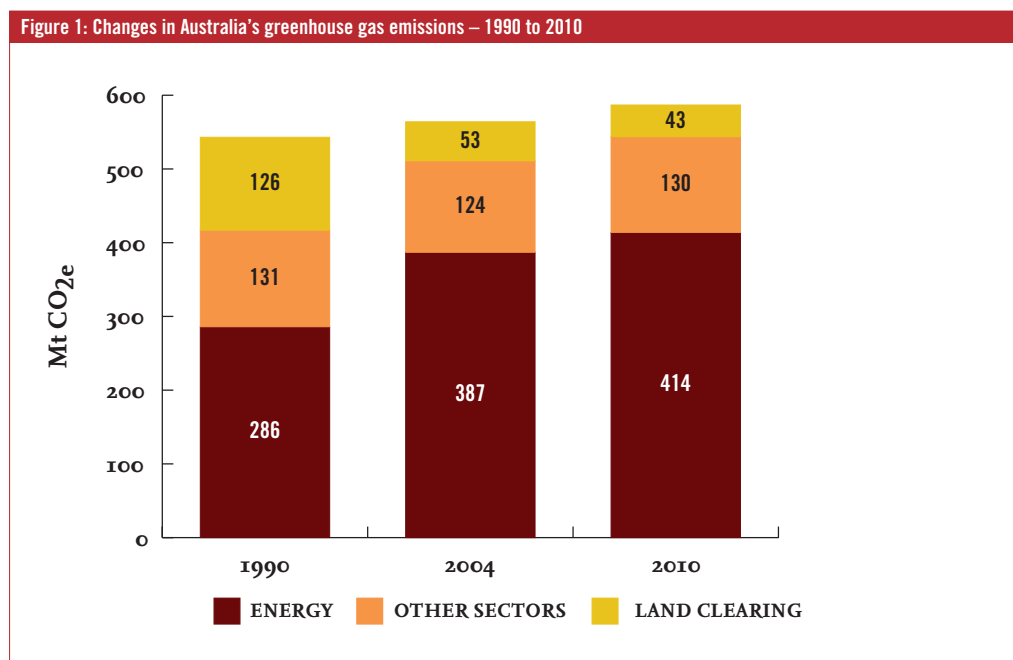
FARMERS ARE DOING ALL THE WORK

Without the efforts of farmers in reducing broad-scale land clearing activities, Australia would not meet the Federal Government commitments to limit the nation's greenhouse gas emissions in 2008-2012 to an 8% increase above the levels achieved in 1990.

Meeting the 8% commitment is vital to the Federal Government both domestically and internationally. Federal ministers have continuously used the commitment to defend current greenhouse and energy policy settings and the Government's rejection of the Kyoto Protocol.¹

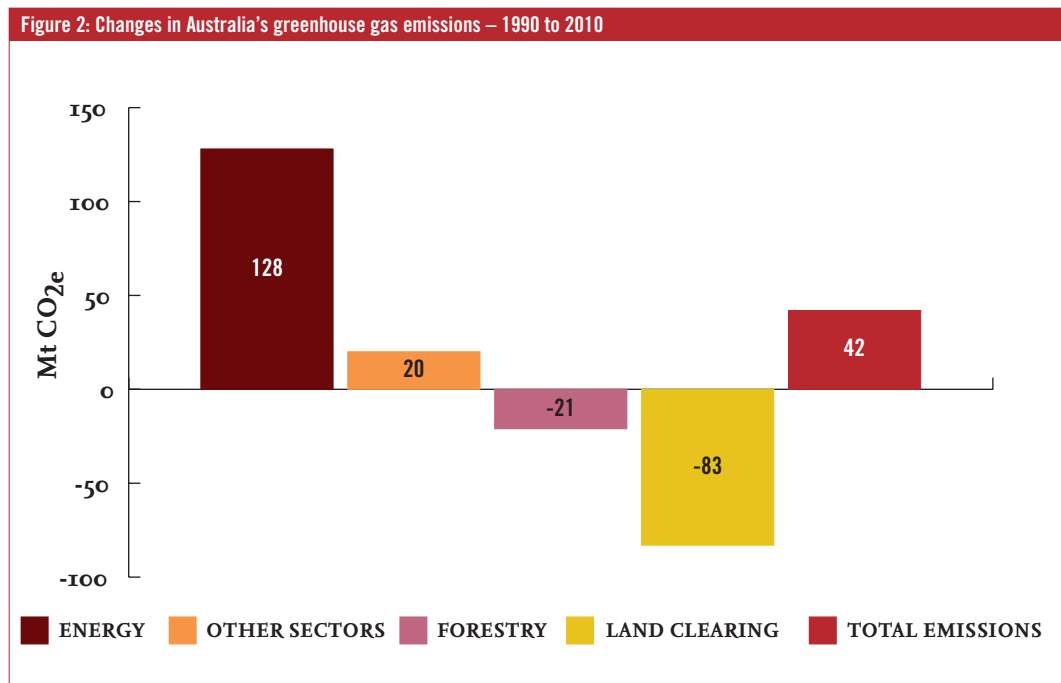
Official Federal Government projections for 2010 show that without the efforts of farmers in reducing broad-scale land clearing Australia's greenhouse emissions would be 30% above 1990 levels, and way off track for Australia to meet its commitment to limit emissions growth to 8%.²

Figure 1 and 2 show that only through reductions in broad-scale land clearing can Australia offset the substantial increases in greenhouse gas emissions from the energy sector projected for 2010.



Notes: The 2010 projection is representative of the 2008-2012 average.
Mt CO₂-e refers to millions of tonnes of carbon dioxide equivalent (a standard measure of greenhouse gases)

Sources: Based on Australian Greenhouse Office, 2006. National Greenhouse Gas Inventory 2004. Available at: <http://www.greenhouse.gov.au/inventory/2004/index.html> and Australian Greenhouse Office, 2005. Tracking to the Kyoto target 2005: Australia's greenhouse emissions trends 1990 to 2008-2012 and 2020. Available at: <http://www.greenhouse.gov.au/projections/pubs/tracking2005.pdf>



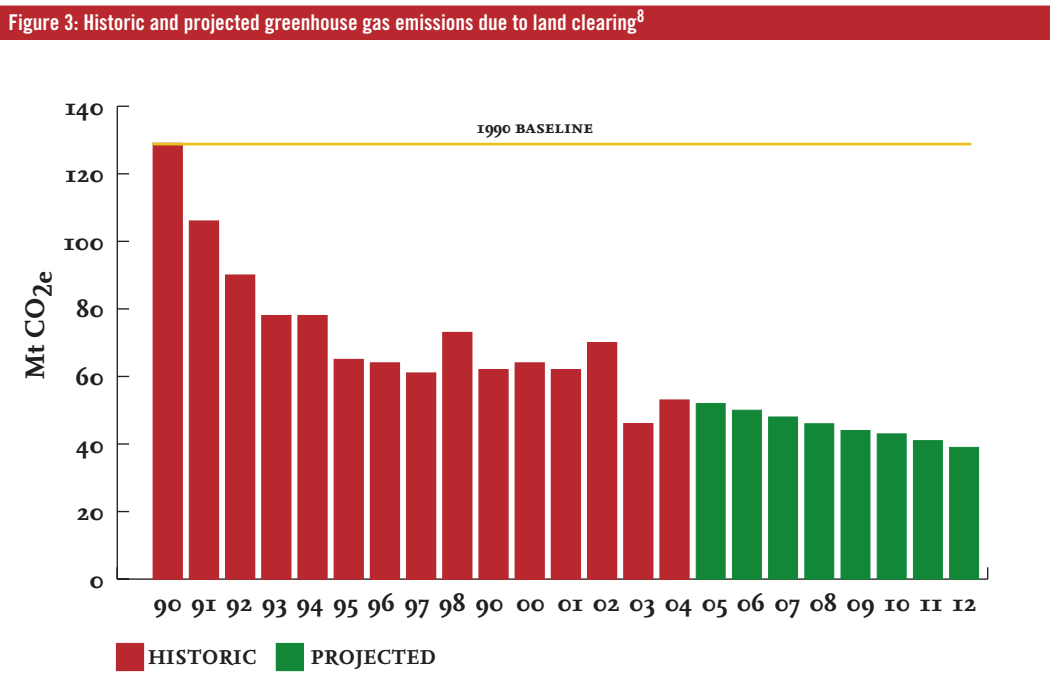
By reducing broad-scale land clearing (called “land use change” in greenhouse gas accounting), farmers have already reduced greenhouse gas emissions by about 75 million tonnes since 1990 (Figure 1)³. These reductions are described in Box A. In 2010, when the Government is committed to meeting its 8% emissions increase target, the savings made by reducing broad-scale land clearing are projected to be about 83 million tonnes (Figure 1)⁴. This level of emissions reductions is equivalent to eliminating the total annual emissions of New Zealand or Ireland⁵.

It is arguable whether or not the Federal Government can claim credit for these emission savings. Reductions in broad-scale land clearing have been undertaken by farmers and largely driven by controls implemented by the Queensland and New South Wales Governments to protect biodiversity.

BOX A: REDUCTIONS IN EMISSIONS FROM LAND CLEARING

Figure 3 shows the annual reductions in greenhouse gas emissions from land clearing since 1990 (called "land use change" in greenhouse gas accounting), and the Government's projections of future reductions through to 2012.⁶

Each year since 1990, farmers have reduced Australia's greenhouse gas emissions, relative to 1990 levels, by over 60 million tonnes, by reducing land clearing.⁷ While there has been a year to year fluctuation in land clearing emissions there has been little change in the average annual reductions level.



HOW CAN FARMERS ACCESS THE VALUE OF THEIR EMISSIONS REDUCING EFFORTS?

Even though farmers are carrying almost the entire load of meeting Australia's emissions target, they have not been financially rewarded for their greenhouse reduction efforts. This is the direct consequence of two key policy decisions by the Federal Government: the rejection of the Kyoto Protocol and the decision not to institute a domestic emissions trading market in greenhouse gas emissions.

The Kyoto Protocol is an international treaty designed to limit global greenhouse gas emissions. Countries that ratify the Kyoto Protocol are able to use market mechanisms to help them find the lowest cost approaches to meeting their emission reduction commitments. The Kyoto market mechanisms, which provide a financial incentive for emission abatement, include international emissions trading, the Clean Development Mechanism and Joint Implementation.

In 2002, the Federal Government announced it would not submit the Kyoto Protocol to the Australian Parliament for ratification⁹. But at the same time, it committed Australia to meeting the target for greenhouse gas emissions reductions it negotiated within the Kyoto Protocol.

The effect was to bar Australia from the international emissions trading markets set up under the Kyoto Protocol. Further the Government has continued to reject calls to establish an independent domestic emissions trading system in Australia for greenhouse gasses¹⁰.

As a result of the Government's policy, Australia is the only OECD nation where industry sectors will be unable to access domestic emissions trading markets in the lead up to the creation of a truly global carbon market under the Kyoto Protocol¹¹.

Around the world carbon markets are developing rapidly to assign a value to and trade in the reduction of greenhouse gas emissions. Governments in most countries are developing emissions trading schemes that use markets to find the lowest cost approaches to meeting emissions targets. According to the carbon market analysts there was over €12 billion (AUD\$20 billion) of trade in global carbon markets the first half of 2006 alone, representing a five-fold increase on the same period in 2005¹². An overview of these markets is provided in Box B.

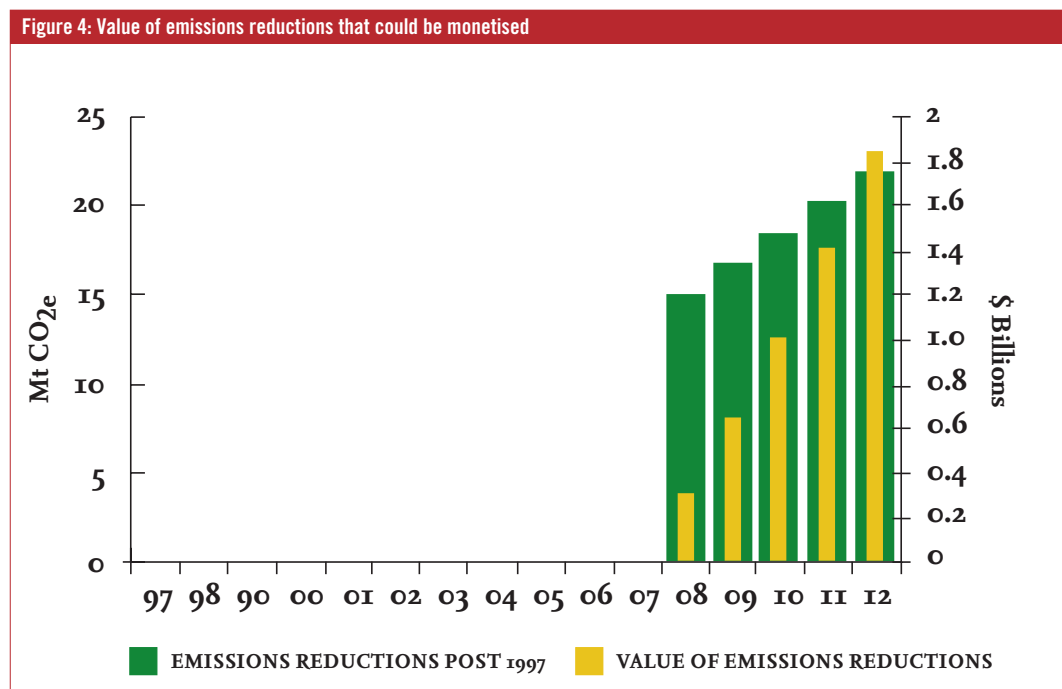
Emissions trading schemes are set up to transfer wealth to entities like farmers that can reduce their emissions and offset emission increases from other sectors. Payments for emissions reductions come from entities that have a relatively high cost of reducing their emissions. The rules are such that there

is a value allocated to farmers foregoing broad-scale land clearing, where carbon remains locked in the vegetation – in effect ‘farming carbon’.

The Federal Government has only been able to reject the Kyoto Protocol and the use of emissions trading markets because farmers’ efforts in restricting broad-scale land clearing have put Australia on track to meeting its targeted 8% increase in emissions. If Government policy changed, farmers could more readily access carbon markets to monetise the value of their efforts in reducing emissions.

The value of emissions reductions achieved by farmers through restrictions on broad-scale land clearing can be estimated by calculating the volume of reductions and applying the “going rate” for emissions reductions, through reference to domestic and global carbon markets.

The Climate Institute’s analysis is that farmers could access more than \$1.8 billion of the value they have created through emissions reductions if Australia ratified the Kyoto Protocol and/or introduced a national emissions trading scheme today (Figure 4). The basis of this assessment is described in Box C.



An emissions trading scheme in Australia that includes all sectors would enable farmers to access a new income stream that places a financial value on emissions reducing activities.

Further, if the Federal Government ratified the Kyoto Protocol, farmers would be able to sell emissions reduction credits on global carbon markets.

Because Australia has not ratified the Kyoto Protocol there are limited opportunities for Australian farmers to access global carbon markets. There is no incentive for Governments or for companies to buy emissions credits from Australian farmers while their credits do not count against a Kyoto Protocol target.

The value foregone by farmers actually extends beyond the value of reducing broad-scale land clearing. The ongoing lack of access to emissions markets also restricts the commercial opportunities that farmers may have to further reduce emissions.

For example, under the Kyoto Protocol rules, post-1990 forests can attract credits for increases in biomass beyond 2008 levels. A report to the National Farmers Federation in April 2006 concluded that the revenue for farmers from carbon emissions scheme and forestry credits are worth between \$0.7-0.9 billion in the five year period 2008-2012.¹³ Such revenue is only gained by implementing a domestic emissions trading regime, and/or ratifying the Kyoto Protocol.

The report states that;

“Current estimates suggest that 2008-12 growth increment of post-1990 forests could be worth around \$700-900 million over this five year period”

BOX B: USING EMISSIONS MARKETS TO VALUE EMISSIONS REDUCTIONS FROM LAND CLEARING

In calculating the extent of foregone compensation for Australian farmers it is useful to refer to the limited emissions trading markets in Australia, and to the much larger markets operating in other OECD nations. Insights into the rapidly expanding carbon markets indicate the scale of opportunity for farmers who can lower emissions, for example by reducing land clearing or planting additional trees to absorb carbon.

All carbon markets work on common principles, even though there are differences in their operations. All set an upper limit on allowable emissions, and give participants the flexibility to decide whether to take action to reduce their emissions to meet that limit, or to buy emissions credits from others in the market. Each participant's decision reflects the costs of reducing emissions; those who can reduce emissions at a low cost can create a surplus which they can sell to participants who have higher costs. In all markets the basic currency is a certificate representing the right to emit one tonne of CO₂-equivalent emissions. The price of certificates is not set by regulators; rather it emerges from trading in a market.

A summary of carbon markets follows:

- Prior to the Federal Government's rejection of the Kyoto Protocol, there was significant interest by foreign energy corporations in investing in Australian land based carbon credits. In 2000, for example, Tokyo Electric Power Company entered into a contract with NSW State Forests to

take 10 years' ownership of both the timber and carbon rights from a NSW forest plantation of between 10,000 and 40,000 hectares. The contract was worth up to AUD\$130 million.¹⁴ Interest in similar investments collapsed when Australia decided it would not ratify the Kyoto Protocol.

- The NSW Greenhouse Gas Abatement Scheme is the only trading market operating in Australia but is limited to the NSW electricity sector. Nevertheless, the value of this market indicates the possibilities for farmers or others that can reduce emissions. Last year, the market grew by 20% as energy utilities traded 6.1 million certificates to avoid government imposed penalties for failing to reduce emissions. The overall value of this market in 2005 was US\$57.2 million (AUD\$78.9 mn), with prices in a range of AUD\$11-15 per tonne CO₂e. This market will be larger in 2006; in the first quarter alone US\$86.6 million (AUD\$120 mn) was traded.¹⁵
- The biggest carbon market is the EU Emissions Trading Scheme set up to help EU Member States meet their Kyoto commitments. Last year, the value of this market – representing trading between greenhouse emitters and those providing certified reductions in emissions – was US\$8.2 billion (AUD\$11.3 bn). The average price paid ranged last year between €20-25 (AUD\$33-42) per tonne of CO₂e. During the first half of 2006 the value of trading in this market was over €9.6 billion (AUD\$15 bn)^{16 17}.
- Global markets established under the Kyoto Protocol for project-based emissions reductions, the Clean Development Mechanism and Joint Implementation, also continue to grow. In 2005 the value of these markets was US\$2.6 billion (AUD\$3.5 bn) and in the first half of 2006 they have already reached €2 billion (AUD\$3.3 bn). Average prices were US\$11.56 (AUD\$15.40) per t CO₂e for CDM and US\$11.56 (AUD\$9.60) for JI^{18 19}.

BOX C: ASSESSING THE POTENTIAL TO ACCESS THE VALUE OF EMISSIONS REDUCTIONS

The Climate Institute's assessment is that farmers could monetise the value of emissions reductions if Australia ratified the Kyoto Protocol and/or established a domestic emissions trading market.

The Institute has taken the conservative view that emissions reductions post-1997 could be monetised during the first commitment period of the Kyoto Protocol; 2008-2012.

Emission reductions resulting from restricting land clearing up until the mid-1990s mainly reflected changes in farming practices that would have occurred irrespective of government policies. Reductions in more recent years reflect deliberate actions by farmers (prompted by new government policies) that go beyond "business as usual". As such, they could have potential value in emissions markets. Therefore The Climate Institute has taken a conservative view in restricting the emissions reductions that could be monetised to the post-1997 period.

The value of emissions reductions achieved by farmers through restrictions on land clearing can be estimated by calculating the volume of reductions and applying the "going rate" for emissions reductions, through reference to domestic and global carbon markets.

The "going rate" for emissions reductions has been determined through reference to domestic and global carbon markets. These markets put a price on activities that reduce greenhouse gas emissions.

A conservative approach has been taken in applying a cost of carbon to these emissions reductions. The period 2008-2012 is expected to see the highest levels of activity in carbon markets, with trading between governments, companies and individuals. A price of AUD\$20/t has been used during this period, which is lower than the current average price of carbon in the EU Emissions Trading Scheme of 15/t CO₂-e (AUD\$25).

Farmers that have established a legal right to emissions reductions could sell them through a domestic emissions trading scheme that included "land use change", or in international carbon markets as Joint Implementation projects. In either case The Climate Institute has taken the conservative view that the emissions reductions could only be traded during the period 2008-2012.

Joint Implementation (JI) would be the main mechanism for selling emissions reduction credits on global carbon markets. JI allows one Kyoto country to buy emissions reductions from projects in another developed country that has ratified the Kyoto Protocol.

Farmers who register a JI project would need an independent auditor to measure the emissions reductions achieved as a result of deliberate measures to restrict land clearing. Once registered, farmers could sell their emissions reductions to governments of countries that have ratified the Kyoto Protocol to help them meet their emissions targets. For example, The Netherlands has run a tender scheme over the last five years to buy emissions reductions from JI projects.

Alternatively, Australian farmers with registered JI projects could sell emissions reductions to companies in countries that have ratified Kyoto to help them meet emissions commitments. For example, under the EU Emissions Trading Scheme companies right across Europe have been assigned emissions reductions targets, and can trade to meet those targets at least cost. A 'Linking Directive' will allow these companies to use JI projects to help meet their targets.

ENDNOTES

- ¹ *Australia remains on track to Kyoto target* Media release by Minister for the Environment and Heritage, Sen the Hon Ian Campbell, 30 November 2005 - <http://www.deh.gov.au/minister/env/2005/mr30nov205.html>, and *Minister releases Australia's record on climate change at Montreal meeting*. Media Release by Minister for the Environment and Heritage, Senator the Hon. Ian Campbell, 8 December 2005 - <http://www.deh.gov.au/minister/env/2005/mr08dec05.html>
- ² Australian Greenhouse Office, 2005. *Tracking to the Kyoto target 2005: Australia's greenhouse emissions trends 1990 to 2008-2012 and 2020*. Available at: <http://www.greenhouse.gov.au/projections/pubs/tracking2005.pdf>
- ³ Australian Greenhouse Office, 2006. *National Greenhouse Gas Inventory 2004*. Available at: <http://www.greenhouse.gov.au/inventory/2004/index.html>
- ⁴ Australian Greenhouse Office, 2005. *Tracking to the Kyoto target 2005: Australia's greenhouse emissions trends 1990 to 2008-2012 and 2020*. Available at: <http://www.greenhouse.gov.au/projections/pubs/tracking2005.pdf>
- ⁵ Figures taken from the National Inventory Reports submitted in 2006 to the Secretariat of the UN Framework Convention on Climate Change. New Zealand's submission is available at: http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/x-zip-compressed/nzl_2006_nir_31aug.zip, and Ireland's submission is available at: http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/x-zip-compressed/irl_2006_nir_13apr.zip
- ⁶ Australian Greenhouse Office, 2005. *Tracking to the Kyoto target 2005: Australia's greenhouse emissions trends 1990 to 2008-2012 and 2020*. Available at: <http://www.greenhouse.gov.au/projections/pubs/tracking2005.pdf>
- ⁷ Australian Greenhouse Office, 2006. *National Greenhouse Gas Inventory 2004*. Available at: <http://www.greenhouse.gov.au/inventory/2004/index.html>
- ⁸ The methodology and assumptions used in calculating land clearing emissions mean that, depending on vegetation type, between 85% and 90% of total emissions are estimated to occur within a year of clearing. Hence emissions in any one year largely reflect the area of land cleared in the previous year.
- About 80% of Australia's land clearing emissions occur in Queensland and New South Wales. Hence, the reductions in emissions in the last few years are largely the result of the land clearing restrictions imposed in those two States in this period. These restrictions are intended to meet a number of environmental policy objectives, most notably biodiversity conservation, but also water catchment protection. These objectives will benefit Australians as a whole. While some farmers have received compensation for restrictions on their land management, most of the cost has been borne by farmers, in the form of reduced productivity and reduced agricultural land values.
- ⁹ *Global Greenhouse Challenge: The Way Ahead for Australia*: Joint Media Release by Minister for the Environment and Heritage, Dr David Kemp, & Minister for Foreign Affairs, Alexander Downer - <http://www.deh.gov.au/minister/env/2002/mr15aug202.html>
- ¹⁰ See for example *States keep costs of emissions trading secret*, Media Release by Minister for the Environment and Heritage, Sen the Hon Ian Campbell - <http://www.deh.gov.au/minister/env/2005/mr15apr605.html> and *Labor's costly carbon game*, Media Release by the Minister for Industry, Tourism and Resources, the Hon Ian Macfarlane - <http://minister.industry.gov.au/index.cfm?event=object.showContent&objectID=15A31F04-B982-F408-6713A926FAE72CBB>
- ¹¹ Like Australia the US has rejected the Kyoto Protocol and accordingly US-based entities can not access global carbon markets. However any entity that wishes to trade in carbon can do so via the Chicago Climate Exchange (see <http://gov.ca.gov/index.php/press-release/2770/>). Further domestic emissions trading is well advanced in the US, through state-based initiatives such as those in the North Eastern and mid-Atlantic States (see <http://www.rggi.org/>); in California (see http://www.climatechange.ca.gov/documents/2006-09-27_AB32_GOV_NEWS_RELEASE.PDF and <http://gov.ca.gov/index.php/press-release/2770/>)
- ¹² *Global carbon market continues massive expansion*, Environment Daily, 16 August 2006. Available at: <http://www.endseuropedaily.com/articles/index.cfm?action=article&ref=21502>
- ¹³ *Emissions trading and the land – Issues and implications for Australian agriculture*, The Allen Consulting Group April 2006, Report to the National Farmers' Federation.
- ¹⁴ NSW Department of Primary Industries - http://www.forest.nsw.gov.au/env_services/carbon/investments/tepco/default.asp
- ¹⁵ *State and Trends of the Carbon Market 2006*, The World Bank & IETA, 2006. Available at: <http://carbonfinance.org/docs/StateoftheCarbonMarket2006.pdf>
- ¹⁶ *State and Trends of the Carbon Market 2006*, *ibid*.
- ¹⁷ *Global carbon market continues massive expansion*, *op cit*.
- ¹⁸ *State and Trends of the Carbon Market 2006*, *op cit*,
- ¹⁹ *Global carbon market continues massive expansion*, *op cit*.



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