



**Australian Government**  
**Department of Climate Change  
and Energy Efficiency**

# AUSTRALIAN NATIONAL GREENHOUSE ACCOUNTS



## State and Territory Greenhouse Gas Inventories **2008**



**thinkchange**

Published by the Department of Climate Change and Energy Efficiency.

[www.climatechange.gov.au](http://www.climatechange.gov.au)

© Commonwealth of Australia 2010

ISBN: 978-1-921298-79-0

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission from the Commonwealth. Requests and inquiries concerning reproduction and rights should be addressed to the:

Commonwealth Copyright Administration  
Attorney General's Department  
Robert Garran Offices  
National Circuit  
BARTON ACT 2600

Or posted at: <http://www.ag.gov.au/cca>

The Australian National Greenhouse Accounts are available on the Internet at the following address:

<http://www.climatechange.gov.au/en/climate-change/emissions.aspx>

Suggestions and comments would be appreciated. They should be addressed to:

The Director  
National Inventory Team  
Department of Climate Change and Energy Efficiency  
GPO Box 854, Canberra ACT 2601.

#### **Disclaimer**

While reasonable efforts have been made to ensure that the contents of this publication are factually correct, the Commonwealth does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this publication.

May 2010

# Table of Contents

<b>State and Territory Greenhouse Gas Emissions – An Overview</b>	<b>1</b>
New South Wales	3
Queensland	4
Victoria	5
Western Australia	6
South Australia	7
Northern Territory	8
Tasmania	9
Australian Capital Territory	10
<b>Appendix 1 – Notes</b>	<b>11</b>
Australian National Greenhouse Accounts	11
Australian Greenhouse Emissions Information System	11
International Guidelines and Review	11
Uncertainty Analysis	13
Ongoing Improvements of Estimates	13
IPCC Sectors	13
Glossary	13
<b>Appendix 2 – Sectoral Greenhouse Gas Emissions</b>	<b>14</b>
<b>Appendix 3 – State and Territory Emissions Trends</b>	<b>18</b>
<b>Appendix 4 – Land Use Change Emissions</b>	<b>34</b>



# State and Territory Greenhouse Gas Emissions – An Overview

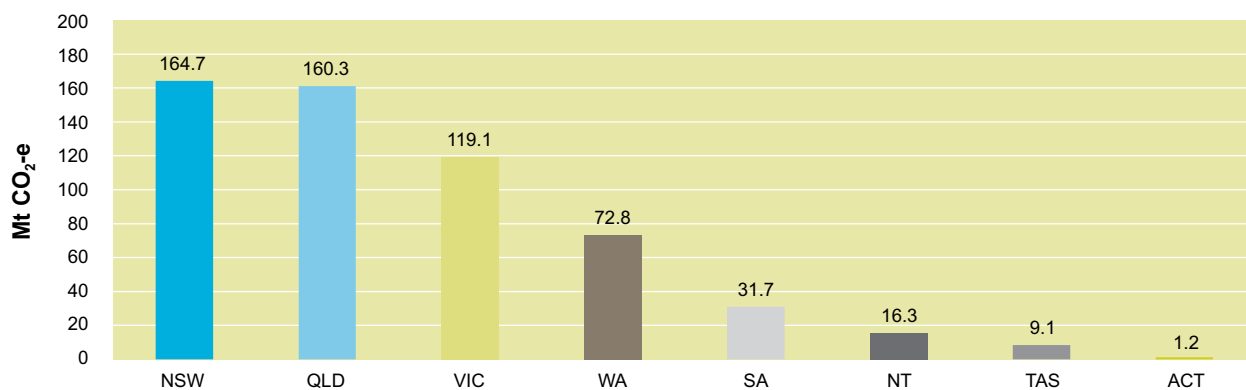
This document provides an overview of the latest available estimates of greenhouse gas emissions for Australia’s States and Territories on a Kyoto accounting basis. The State and Territory breakdown of total emissions is presented in table 1.

**Table 1 State and Territory greenhouse gas inventories, 2008**

	Total emissions (excluding emissions from LULUCF) Mt CO <sub>2</sub> -e	Total emissions (including emissions from LULUCF) Mt CO <sub>2</sub> -e
New South Wales	156.4	164.7
Queensland	131.3	160.3
Victoria	121.9	119.1
Western Australia	79.5	72.8
South Australia	33.4	31.7
Northern Territory	16.2	16.3
Tasmania	8.6	9.1
Australian Capital Territory	1.2	1.2
External Territories	0.03	0.03

Note: The national inventory (Annex A sectors) for 2008 was estimated at 549.5 Mt CO<sub>2</sub>-e. After accounting for Article 3.3 Land Use, Land Use Change and Forestry activities, Australia’s emissions were estimated at 581.9 Mt CO<sub>2</sub>-e. 2008 is the 2007-08 financial year.

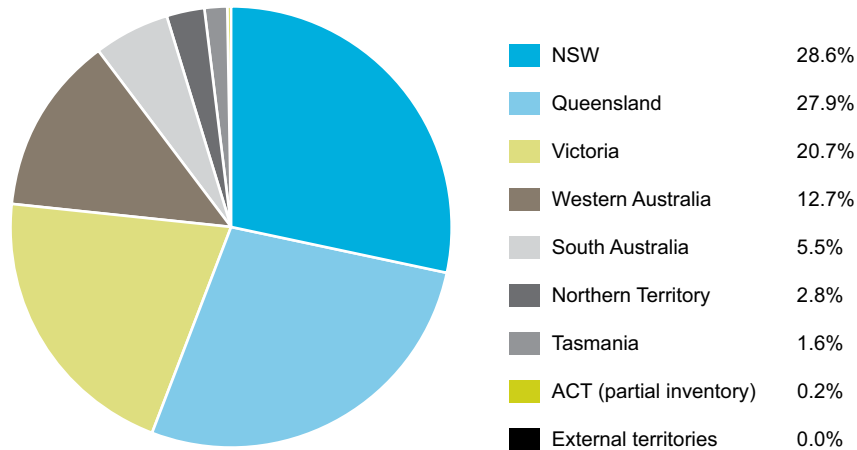
**Figure 1: State and Territory Total Emissions, 2008**



Note: The NSW inventory includes ACT emissions from the Stationary Energy sector.

In 2008, State and Territory shares of national emissions (including estimates of emissions and removals from the Article 3.3 LULUCF activities) comprised 29% from New South Wales, 28% from Queensland, 21% from Victoria, 13% from Western Australia, 6% from South Australia, 3% from the Northern Territory, 2% from Tasmania, 0.2% from the Australian Capital Territory (a partial estimate only, as some sectors are included within NSW) and less than 0.1% from External Territories (see Figure 2).

**Figure 2: State and Territory Shares of National Emissions, 2008**



More information on these State and Territory estimates is available from the Australian Greenhouse Emissions Information System (AGEIS) on the Department of Climate Change and Energy Efficiency's website.

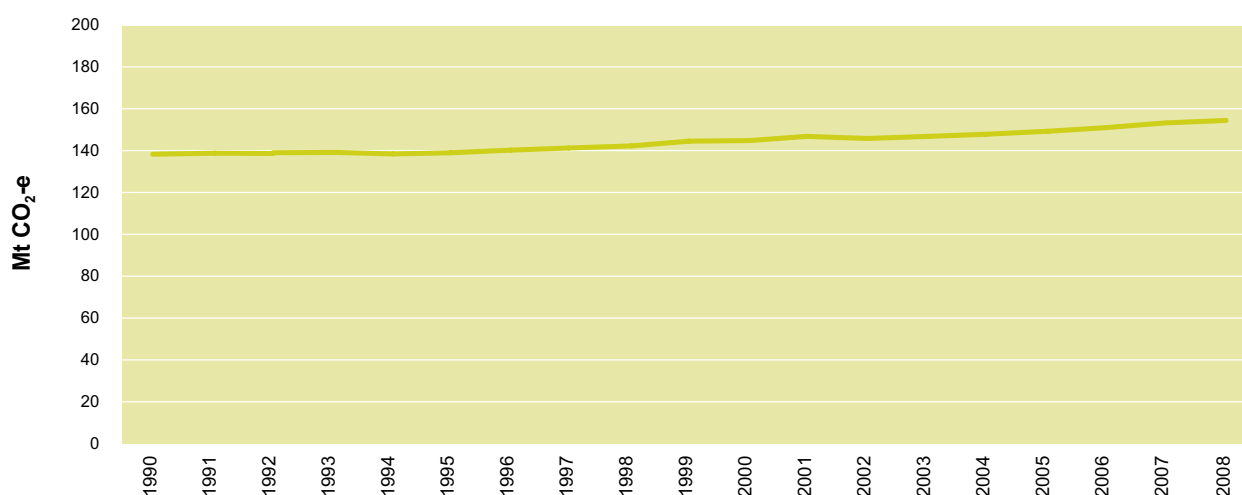
# State and Territories Greenhouse Gas Inventories

The following sections provide summary information on the greenhouse gas emissions including emissions and removals from KP-LULUCF for each State and Territory. Other background information including a detailed time-series of emissions estimates are provided in the appendices at the back of the booklet.

## New South Wales

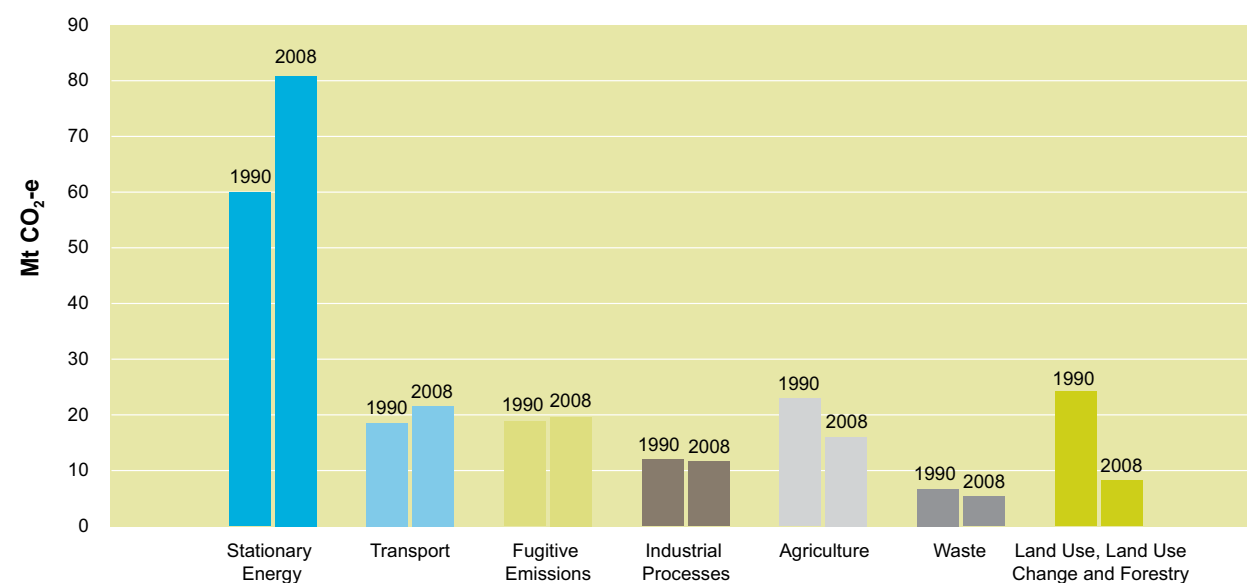
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 156.4 million tonnes (Mt) in 2008 (an 11.8 % increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 164.7 Mt (a 0.3% increase on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 3 and 4.

**Figure 3: New South Wales – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

**Figure 4: New South Wales – Emissions by Sector, 2008**

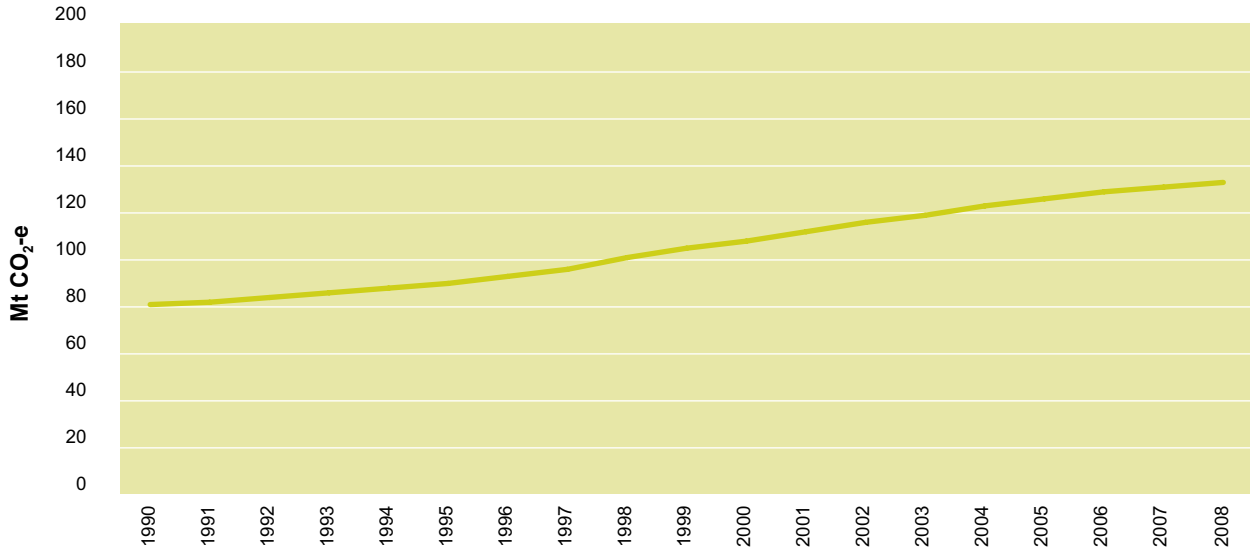


Note: The NSW inventory includes ACT emissions from the Stationary Energy sector (excluding lawnmower use in 1.A.4 'other sectors').

## Queensland

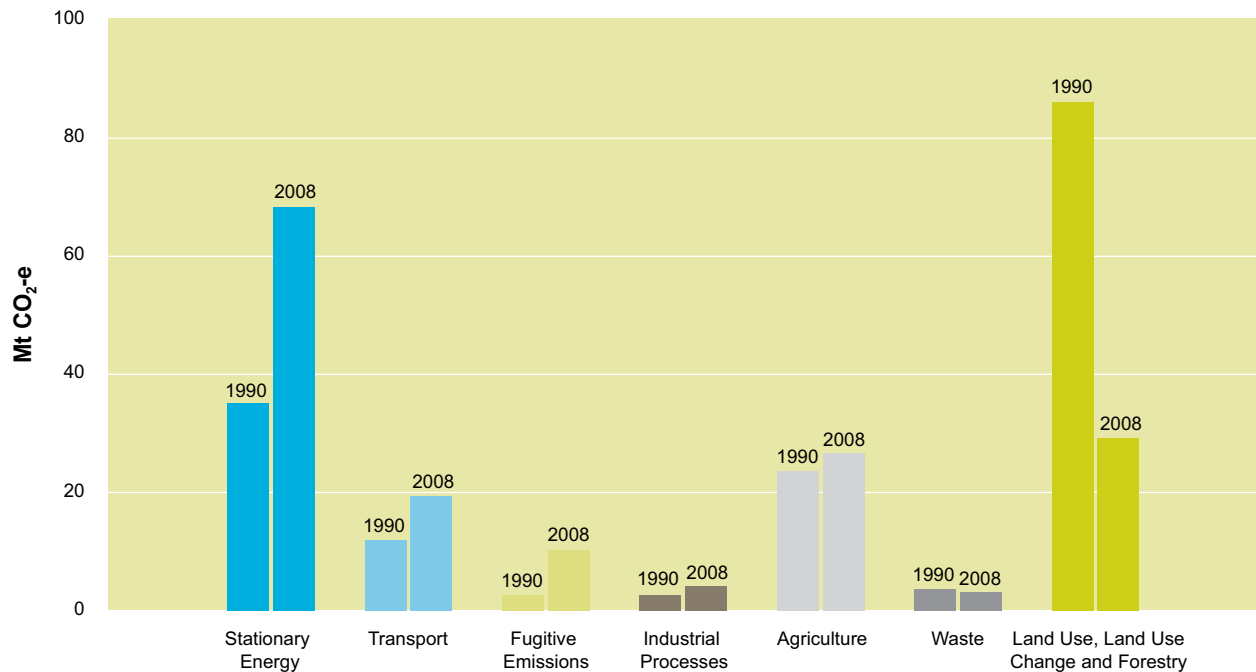
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 131.3 million tonnes (Mt) in 2008 (a 65.6 % increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 160.3 Mt (a 2.9 % decrease on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 5 and 6.

**Figure 5: Queensland – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

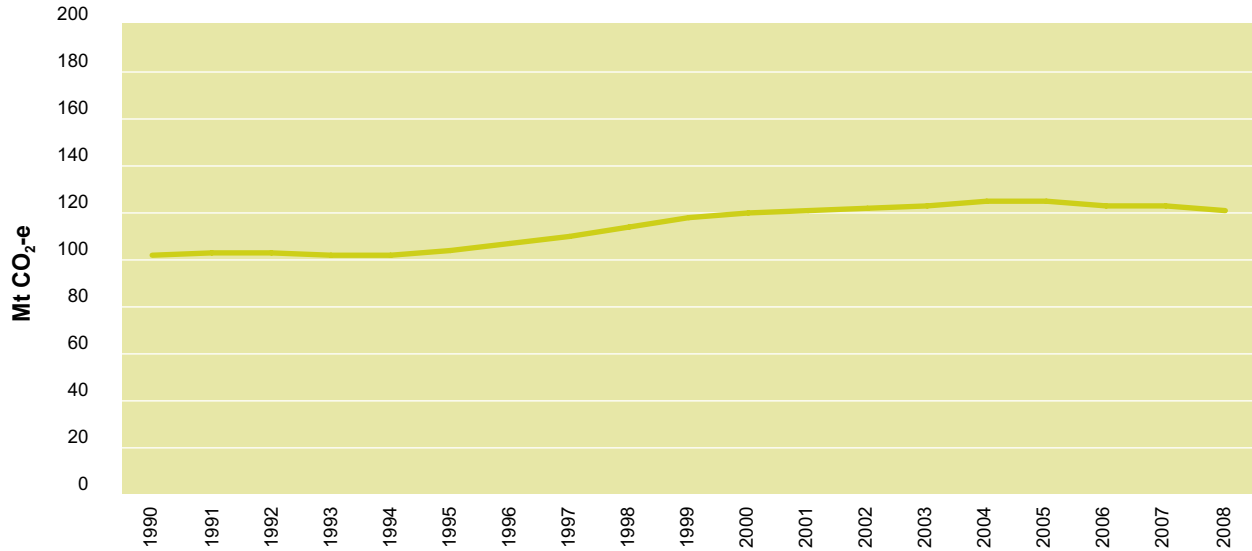
**Figure 6: Queensland – Emissions by Sector, 2008**



## Victoria

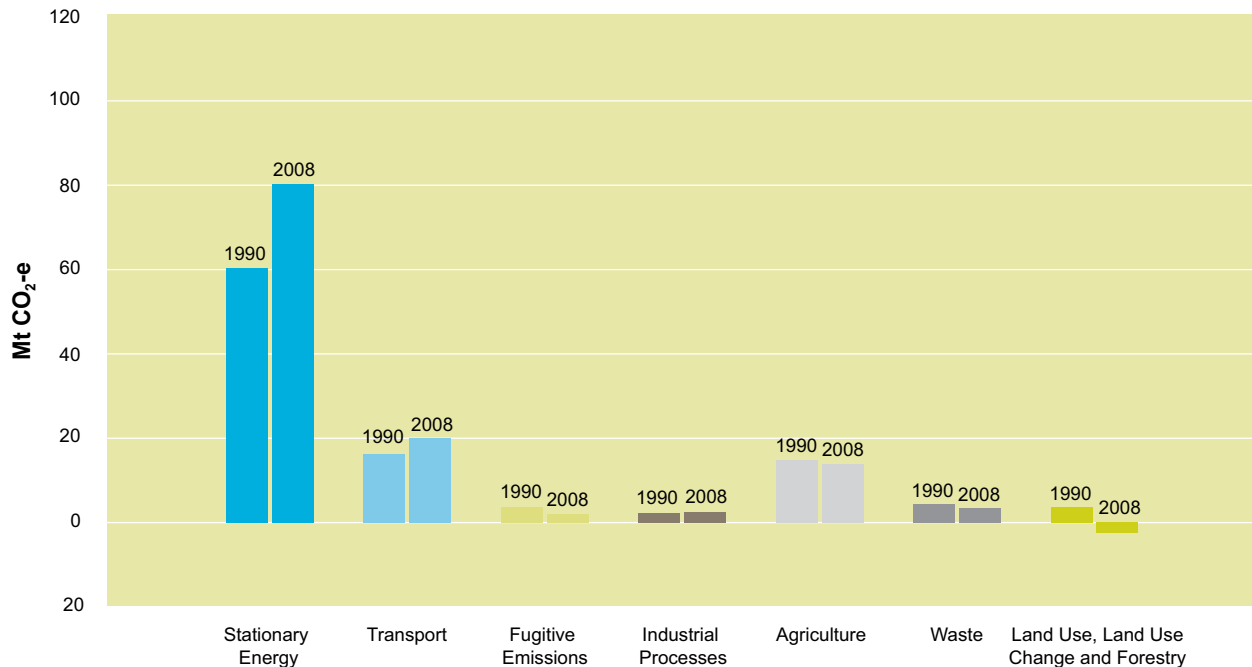
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 121.9 million tonnes (Mt) in 2008 (a 19.1% increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 119.1 Mt (a 11.6% increase on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 7 and 8.

**Figure 7: Victoria - Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

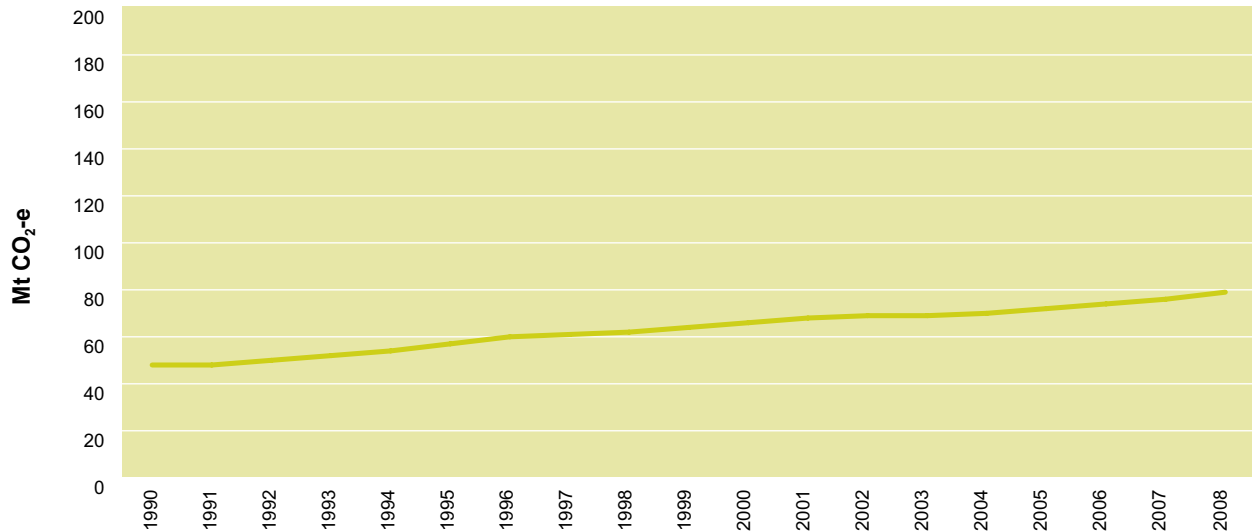
**Figure 8: Victoria – Emissions by Sector, 2008**



## Western Australia

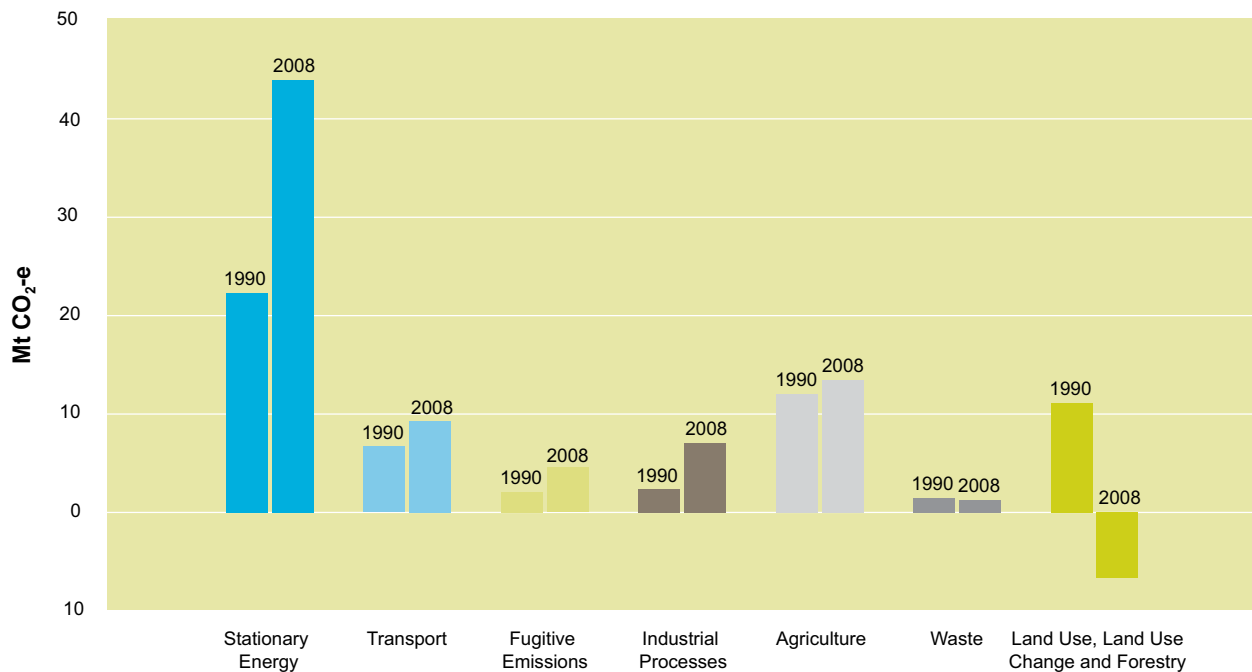
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 79.5 million tonnes (Mt) in 2008 (a 69.5% increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 72.8 Mt (a 25.2% increase on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 9 and 10.

**Figure 9: Western Australia – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

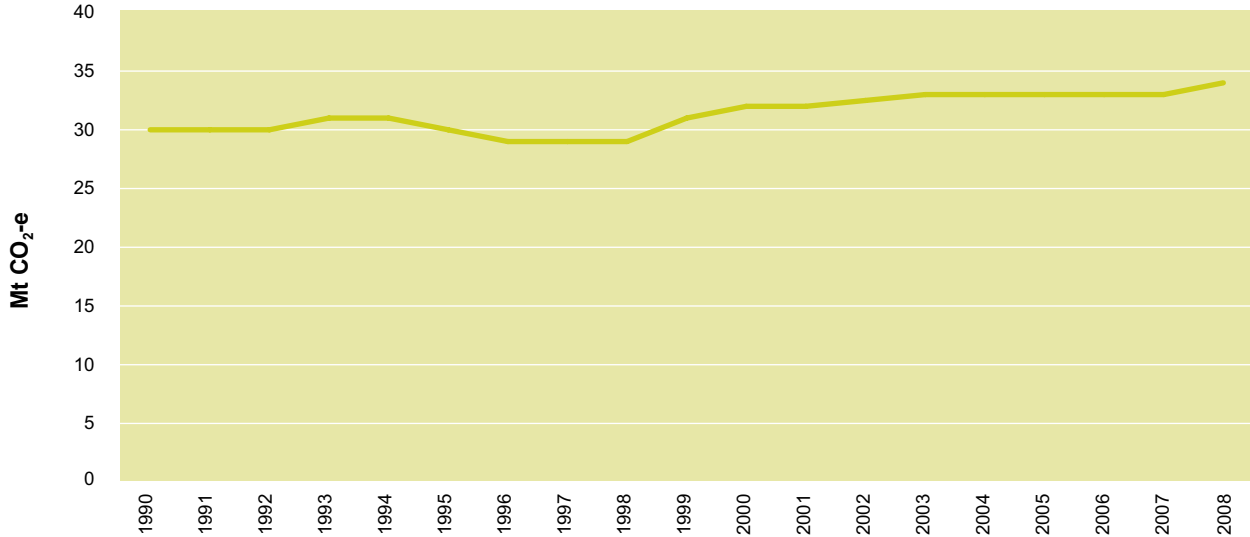
**Figure 10: Western Australia – Emissions by Sector, 2008**



## South Australia

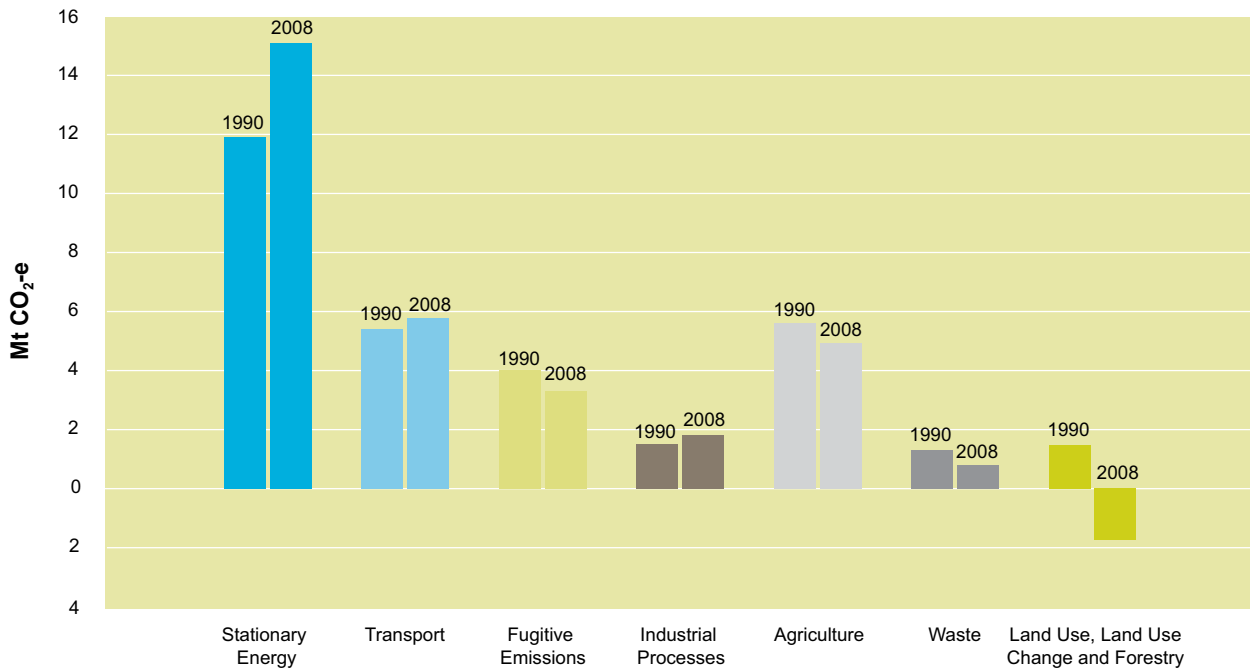
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 33.4 million tonnes (Mt) in 2008 (a 7.8% increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 31.7 Mt (a 2.5% decrease on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 11 and 12.

**Figure 11: South Australia – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

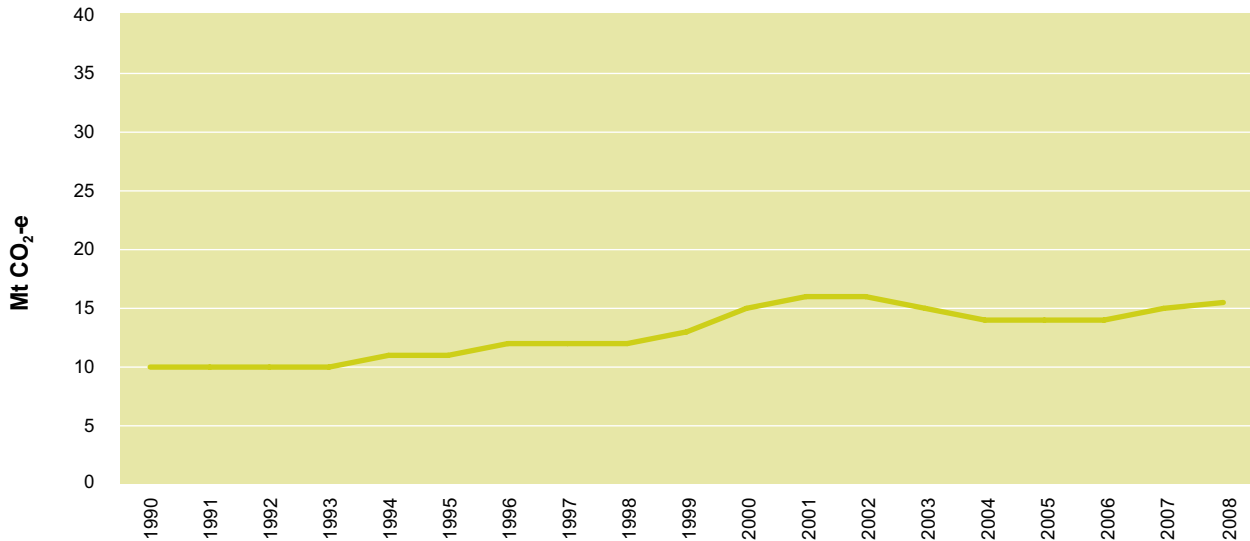
**Figure 12: South Australia – Emissions by Sector, 2008**



## Northern Territory

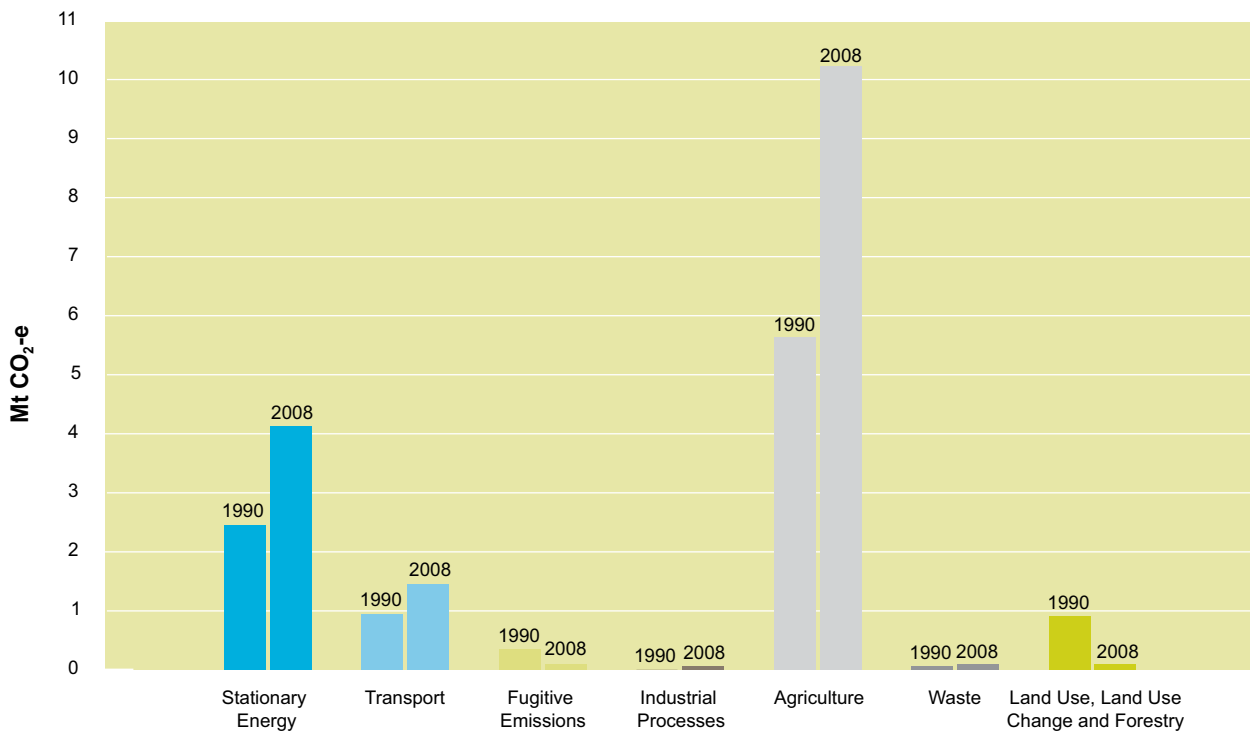
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 16.2 million tonnes (Mt) in 2008 (a 69.3% increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 16.3 Mt (a 55.6% increase on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 13 and 14. The principal source of emissions from agriculture in the Northern Territory is the burning of savannas.

**Figure 13: Northern Territory – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

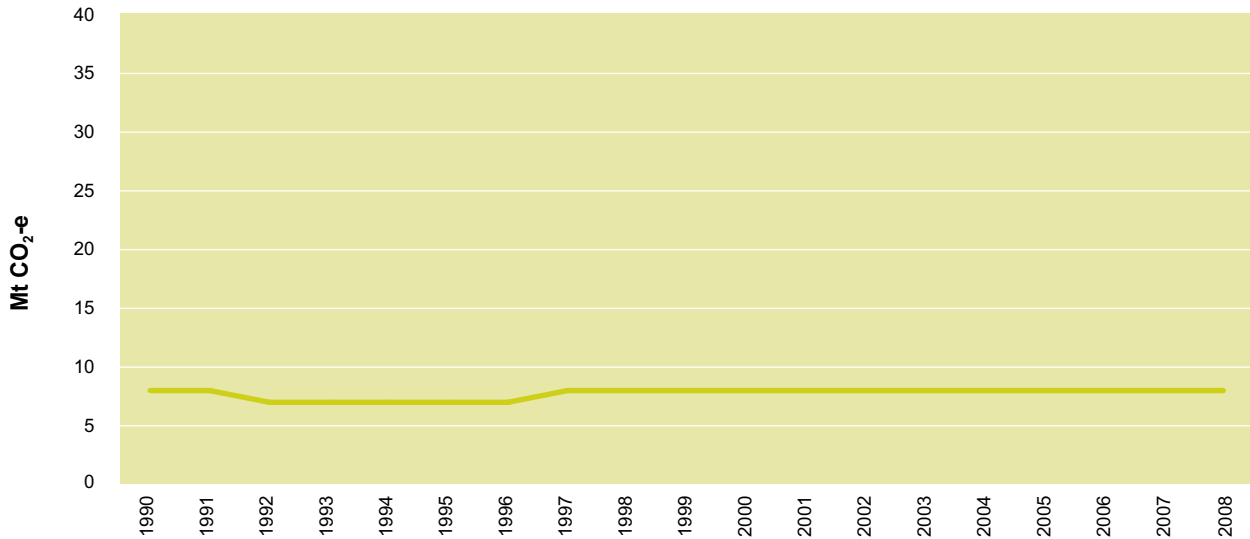
**Figure 14: Northern Territory – Emissions by Sector, 2008**



## Tasmania

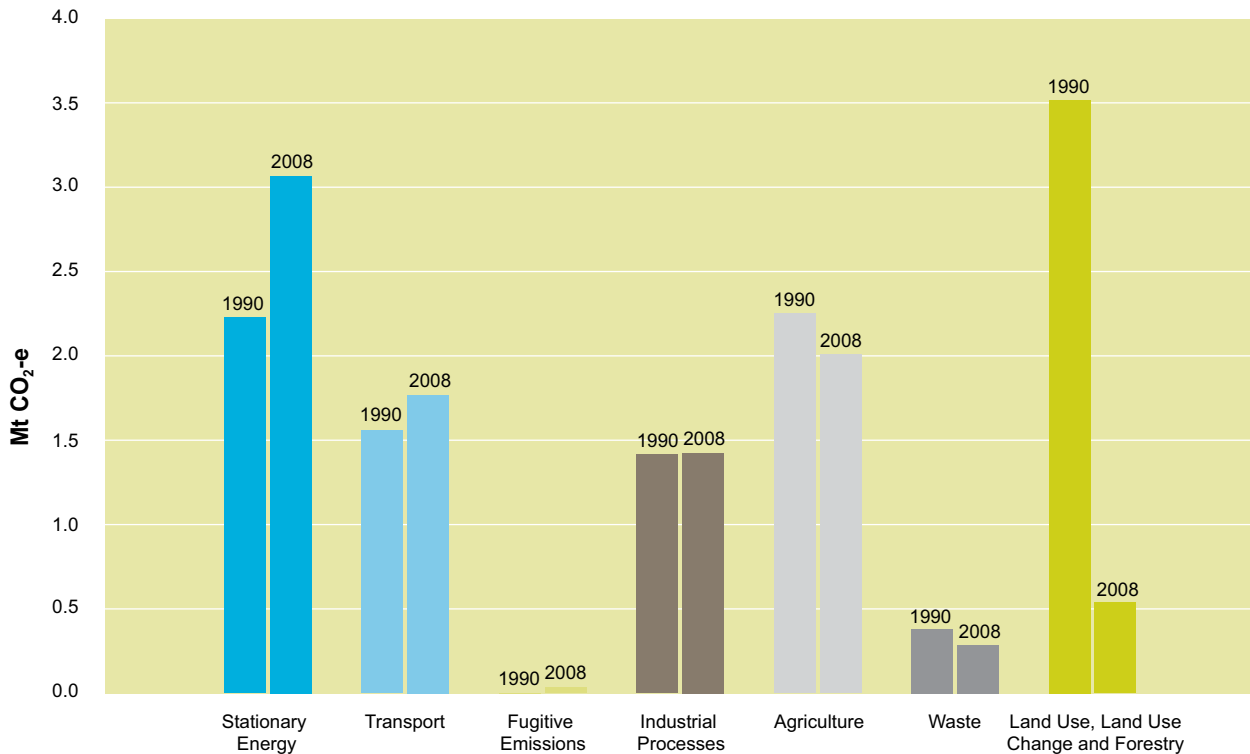
Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 8.6 million tonnes (Mt) in 2008 (a 9.1% increase on 1990). When emissions and removals from KP-LULUCF are included the total becomes 9.1 Mt (a 19.9% decrease on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 15 and 16.

**Figure 15: Tasmania – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

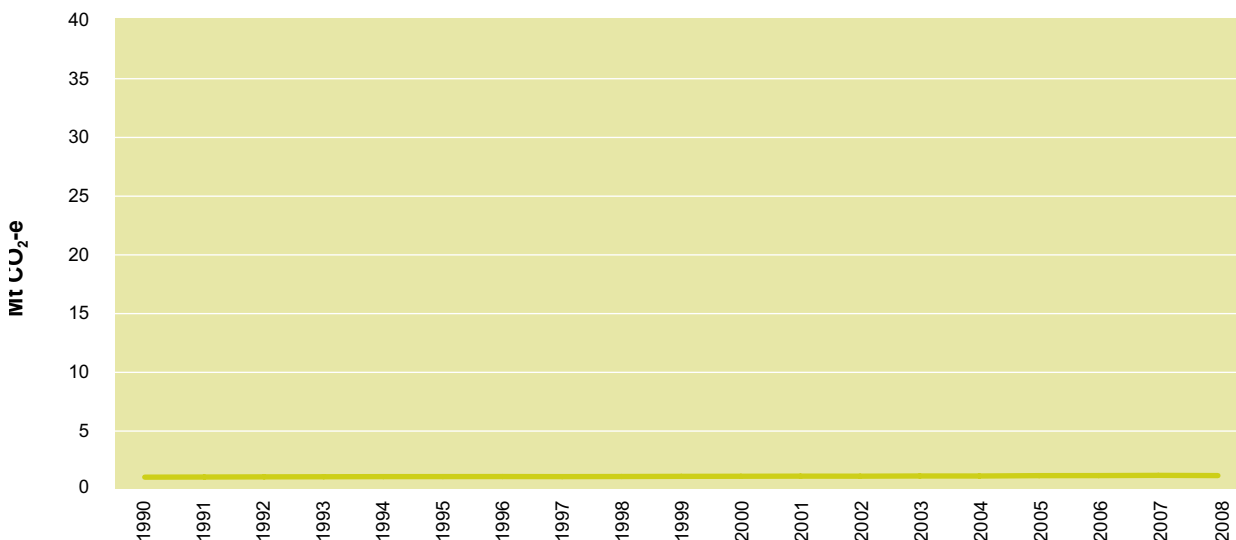
**Figure 16: Tasmania – Emissions by Sector, 2008**



## Australian Capital Territory

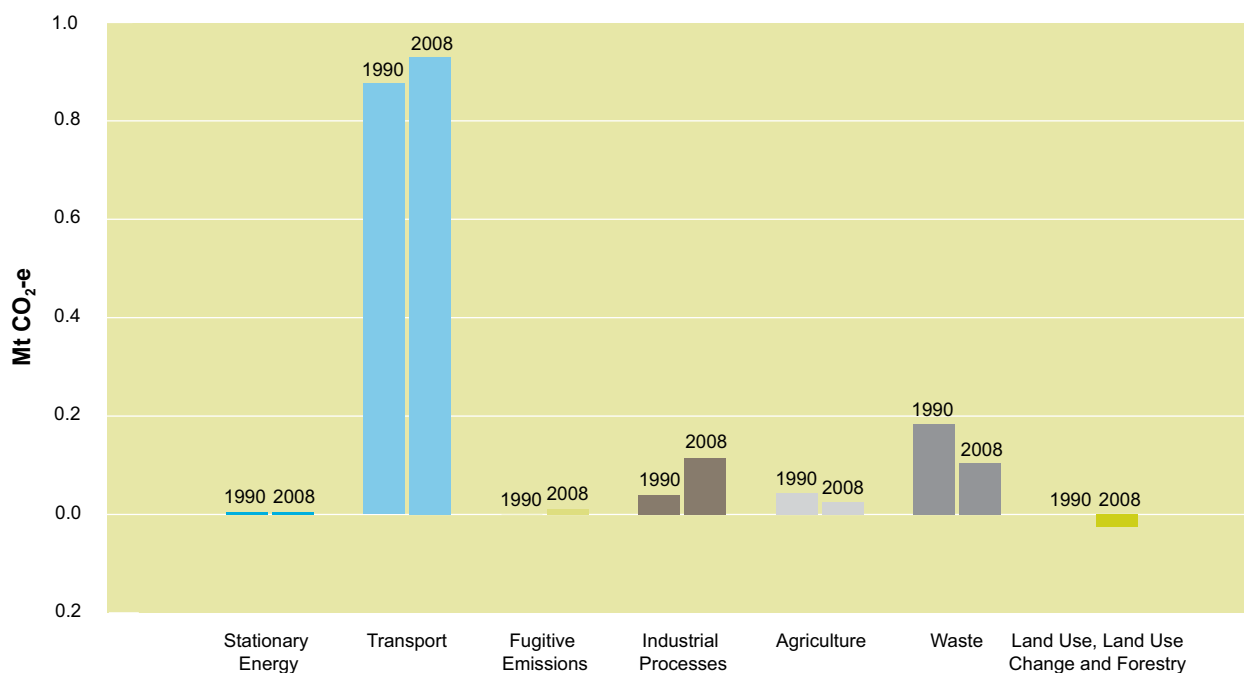
A partial inventory was compiled for the ACT including the Transport, Fugitive Emissions, Industrial Processes, Agriculture, Forestry and Waste sectors. ACT emissions from the Stationary Energy sector comprise emissions from lawnmower use from 1.A.4 'Other Sectors' only. The remainder of the Stationary Energy sector estimates were included in the NSW inventory as these are not estimated separately. Greenhouse gas emissions excluding emissions and removals from KP-LULUCF were 1.2 million tonnes (Mt) in 2008 (a 3.5% increase on 1990). When emissions and removals from KP-LULUCF are included the total remains at 1.2 Mt (a 1.1% increase on 1990). The sectoral composition, level and trend of these emissions are shown in Figures 17 and 18.

**Figure 17: Australian Capital Territory – Emissions, 1990-2008 (excluding LULUCF)**



Note: Time-series emissions have been smoothed using 3-year averaging.

**Figure 18: Australian Capital Territory – Emissions by Sector, 2008**



# Appendix 1 – Notes

## Australian National Greenhouse Accounts

In conjunction with this *Report*, the Department of Climate Change and Energy Efficiency (DCCEE) publishes a range of supporting emission estimates that, together, constitute the *Australian National Greenhouse Accounts*. In addition to the *State and Territory Greenhouse Gas Inventories*, the DCCEE also prepares:

- the *National Greenhouse Gas Inventory*;
- the *National Inventory by Economic Sector 2008*, comprising emission estimates by economic sector rather than by IPCC sectors as in this report; and
- the *National Inventory Report 2008*, prepared under the reporting provisions applicable to the United Nations Framework Convention on Climate Change.

These documents are available on the DCCEE website <http://www.climatechange.gov.au/en/climate-change/emissions.aspx>. They provide additional information with respect to Australia's emissions on both a regional and industry basis, as well as with respect to Australia's domestic policy commitments.

## Australian Greenhouse Emissions Information System

The Australian Greenhouse Emissions Information System (AGEIS) provides on-line public access to emission estimates, background supporting data and time-series analyses that support the *National Greenhouse Accounts*. The dynamic interface allows users to select emissions data of interest and download the results in a format which allows for further analysis of the data on their own desktop. The AGEIS can be accessed at <http://ageis.climatechange.gov.au>.

## International Guidelines and Review

The *State and Territory Greenhouse Gas Inventories* have been prepared in accordance with the Intergovernmental Panel on Climate Change (IPCC) *Revised 1996 Guidelines for National Greenhouse Gas Inventories* and the principles of the IPCC (2000) *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* and the IPCC (2003) *Good Practice Guidance for Land Use, Land Use Change and Forestry*. Where appropriate, elements of the 2006 *IPCC Guidelines for National Greenhouse Gas Inventories* are being progressively implemented. The national inventory undergoes annual independent international review.

The *State and Territory Greenhouse Gas Inventories* have also been prepared in consultation with the States and Territories, under the guidance of the National Greenhouse Gas Inventory Committee of representatives of the Australian, State and Territory Governments.

## Kyoto Accounting

'Kyoto accounting' is relevant to Australia's target under the Kyoto Protocol. See the Department of Climate Change web site at <http://www.climatechange.gov.au> for more detail.

Under the Kyoto Protocol, the national inventory comprises four sources of emissions – the IPCC sectors *Energy, Industrial Processes, Agriculture and Waste* (Annex A sectors). Within the *Energy* sector, there are *Stationary Energy, Transport* and *Fugitive emissions* (mainly from the extraction fuels) sources. In addition, countries must account for Article 3.3 *Land Use, Land Use Change and Forestry* activities – these are deforestation, afforestation and reforestation.

- 'Stationary Energy' is mainly greenhouse gas emissions from the production of electricity and other direct combustion of fossil fuels in industry such as manufacturing and construction.
- 'Transport' comprises greenhouse gas emissions from air, road, rail and shipping transportation.
- 'Fugitive Emissions from Fuels' comprises the greenhouse gas emissions from the extraction and distribution of coal, oil and natural gas.
- 'Industrial Processes' comprises the direct greenhouse gas emissions from the chemical and or physical transformation of materials and the consumption of synthetic greenhouse gases.
- 'Agriculture' comprises the emissions of methane and nitrous oxide only (that is, non-carbon dioxide gases) from livestock, crops, agricultural and forest soils, and agricultural burning including the prescribed burning of savannas.
- 'Waste' comprises the greenhouse gas emissions from the disposal of solid waste to land, the treatment of domestic and industrial wastewater and the incineration of municipal and clinical waste.
- 'Afforestation and reforestation' comprises emissions and removals (that is sinks) from forests established on agricultural land since 1990.
- 'Deforestation' comprised emissions and removals from the direct human-induced removal of forest and replacement with pasture, crops or other uses on land that was forest on 1 January 1990.

Estimates of the emissions and removals from the Article 3.3 LULUCF activities are only provided for 1990 and for the commitment period (2008-2012). Unlike other sectors, the accounting rules for Article 3.3 LULUCF activities differ between the initial assigned amount calculations and the commitment period. It is, therefore, not possible to present a consistent time-series of emissions and removals for these activities.

The 1990 estimate presented here for LULUCF, is the 'base year' estimate used to calculate the initial assigned amount. This includes land use change (or forest conversion) as reported under the UNFCCC inventory and no emissions or removals due to forestry.

- *Land use change* under the UNFCCC includes emissions and removals from all forest lands cleared in a given year as well as ongoing emissions from the loss of biomass and soil carbon on lands previously cleared. As the carbon in these pools can take greater than 20 years to reach a new equilibrium after forest clearing the land use change estimate for 2008 includes emissions and removal on lands cleared prior to 1990. *Deforestation* as agreed under the Kyoto Protocol only includes emissions and removals from land that was forest on 1 January 1990 and which has been cleared since 1990.

The estimates presented here for afforestation/reforestation are the accounting quantity taking into consideration the harvested forest sub-rule of the Kyoto Protocol. Under this accounting rule "debits resulting from harvesting during the first commitment period following afforestation and reforestation since 1990 shall not be greater than credits accounted for on that unit of land". In other words, whenever emissions on harvested land units are greater than the removals on those land units, a net balance of zero is assumed for those units of land.

The 'initial assigned amount' represents Australia's emissions target for the first commitment period of the Kyoto Protocol (before adjustments are made for purchases of net credits from international sources). The initial assigned amount is calculated as 108% of the base year emissions and is established as 592 Mt a year for each year of the first commitment period 2008-2012.

The 'base year' emissions for Australia (547.7 Mt CO<sub>2</sub>-e) are the 1990 emissions for the national inventory (Annex A) sectors (Energy, Industrial Processes, Agriculture and Waste) and Land Use Change as submitted to the UNFCCC in Australia's Initial Report in October 2008.

## Greenhouse Gases

- Consistent with the requirements of the Kyoto Protocol, the *State and Territory Greenhouse Gas Inventories* cover sources of greenhouse gas emissions and removals by sinks resulting from human (anthropogenic) activities for the major greenhouse gases – carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF<sub>6</sub>).
- Global Warming Potentials have been used to convert each of the major greenhouse gases to carbon dioxide equivalents (CO<sub>2</sub>-e). As greenhouse gases vary in their radiative activity and in their atmospheric residence time, converting emissions into CO<sub>2</sub>-e allows the integrated effect of emissions of the various gases to be compared. The GWPs used in this Report were the 100-year global warming potentials (GWPs) contained in the 1995 IPCC Second Assessment Report (IPCC 1996), as agreed for use under the Kyoto Protocol.

## External Territories

The geographical coverage of the *State and Territory Greenhouse Gas Inventories* also includes emissions from the Australian Antarctic Territory; Norfolk Island; Christmas Island; Cocos Islands and Heard and McDonald Islands. The following external territories are also covered but are included in the state statistical territories by the Australian Bureau of Statistics: Coral Sea Islands (Queensland) and Ashmore and Cartier Islands (Northern Territory).

## Uncertainty Analysis

Uncertainty is inherent within any kind of estimation. Uncertainty assessments at a sectoral level are reported in the National Inventory Report. Overall, at the national level, the uncertainty of the national inventory emission estimates has been assessed at ±2%. While no quantitative estimates have been produced, the Department assesses that the uncertainties for emission estimates for these inventories, particularly the smaller states and territories, will be somewhat higher than for the national inventory.

## Ongoing Improvements of Estimates

Due to refinements to the emissions estimation methodologies, which have been applied to all years for which emissions have been estimated, the estimates presented in this document supersede all previously published estimates for the *State and Territory Greenhouse Gas Inventories* and caution should be exercised before comparing directly with the estimates of previous publications.

Copies of the other Australian National Greenhouse Accounts documents

- *National Greenhouse Gas Inventory*
- *National Inventory by Economic Sector 2008*
- *National Inventory Report 2008*

can be obtained from the Department of Climate Change and Energy Efficiency website  
<http://www.climatechange.gov.au/en/climate-change/emissions.aspx>

On-line access to emissions results – Australian Greenhouse Emissions Information System (AGEIS) – also available at <http://ageis.climatechange.gov.au>

# Appendix 2 – Sectoral Greenhouse Gas Emissions

## SECTORAL BREAKDOWN OF 1990 AND 2008 STATE AND TERRITORY EMISSIONS

A detailed sectoral breakdown of national, State and Territory greenhouse gas emissions for 1990 and 2008 are shown in Tables 2 and 3 below.

**Table 2: National, State and Territory Emissions by Sector in 1990** (a)(b)(c)(d)(e)

	AUSTRALIA		NSW (f)		QLD		VIC		WA	
	Emissions (Mt)	1990	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions
<b>Inventory total (excluding LULUCF)</b>	<b>418.4</b>	<b>139.9</b>	<b>79.3</b>	<b>33.4%</b>	<b>102.3</b>	<b>18.9%</b>	<b>46.9</b>	<b>24.5%</b>	<b>46.9</b>	<b>11.2%</b>
<b>SECTORS/KEY SUBSECTORS</b>										
ENERGY SECTOR	289.3	97.7	49.7	33.8%	80.7	17.2%	31.0	27.9%	31.0	10.7%
Stationary Energy	194.9	59.9	35.1	30.7%	60.7	18.0%	22.3	31.1%	22.3	11.4%
Energy Industries	143.1	47.8	24.5	33.4%	47.3	17.1%	13.3	33.0%	13.3	9.3%
Electricity generation	129.5	44.0	22.8	34.0%	44.2	17.6%	10.5	34.1%	10.5	8.1%
Other energy industries	13.6	3.8	1.7	27.8%	3.1	12.8%	2.8	22.7%	2.8	20.8%
Manufacturing and construction	36.1	8.4	8.6	23.3%	7.1	23.9%	7.3	19.8%	7.3	20.4%
Other sectors	15.8	3.7	1.9	23.4%	6.2	12.3%	1.6	39.7%	1.6	10.0%
Transport	62.1	18.4	11.9	29.7%	16.3	19.2%	6.7	26.3%	6.7	10.7%
Fugitive Emissions	32.3	19.3	2.7	59.9%	3.7	8.5%	2.1	11.5%	2.1	6.6%
<b>INDUSTRIAL PROCESSES</b>	<b>24.4</b>	<b>12.5</b>	<b>2.7</b>	<b>51.4%</b>	<b>2.3</b>	<b>11.2%</b>	<b>2.5</b>	<b>9.3%</b>	<b>2.5</b>	<b>10.1%</b>
AGRICULTURE	86.8	22.9	23.6	26.4%	14.8	27.2%	12.0	17.0%	12.0	13.8%
Livestock	66.0	18.6	19.8	28.2%	11.8	29.9%	7.7	18.0%	7.7	11.7%
Other Agriculture	20.8	4.3	3.9	20.5%	2.9	18.6%	4.3	14.0%	4.3	20.6%
WASTE	17.9	6.8	3.2	37.9%	4.6	17.8%	1.4	25.7%	1.4	7.7%
OTHER	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
LAND USE, LAND USE CHANGE AND FORESTRY	131.5	24.2	85.8	18.4%	4.4	65.2%	11.2	3.3%	11.2	8.5%
Afforestation and reforestation										
Land use change (deforestation)	131.5	24.2	85.8	18.4%	4.4	65.2%	11.2	3.3%	11.2	8.5%
<b>Inventory total (including LULUCF)</b>	<b>549.9</b>	<b>164.1</b>	<b>165.0</b>	<b>29.8%</b>	<b>106.7</b>	<b>30.0%</b>	<b>58.1</b>	<b>19.4%</b>	<b>58.1</b>	<b>10.6%</b>

	AUSTRALIA		SA		NT		TAS		ACT (partial inventory) <sup>f)</sup>	
	Emissions (Mt)		Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions
<b>Inventory total (excluding LULUCF)</b>	<b>418.4</b>	<b>31.0</b>	<b>9.6</b>	<b>7.4%</b>	<b>9.6</b>	<b>2.3%</b>	<b>7.8</b>	<b>1.9%</b>	<b>1.2</b>	<b>0.3%</b>
<b>SECTORS/KEY SUBSECTORS</b>										
ENERGY SECTOR	<b>289.3</b>	21.2	3.8	7.3%	3.8	1.3%	3.8	1.3%	0.9	0.3%
Stationary Energy	<b>194.9</b>	11.9	2.4	6.1%	2.4	1.3%	2.2	1.1%	0.0	0.0%
Energy Industries	<b>143.1</b>	8.7	0.9	6.1%	0.9	0.6%	0.6	0.4%	0.0	IE
<i>Electricity generation</i>	<b>129.5</b>	6.5	0.9	5.0%	0.9	0.7%	0.6	0.4%	0.0	IE
<i>Other energy industries</i>	<b>13.6</b>	2.2	0.0	16.0%	0.0	0.1%	0.0	0.0%	0.0	IE
Manufacturing and construction	<b>36.1</b>	1.9	1.4	5.4%	1.4	3.7%	1.2	3.4%	0.0	IE
Other sectors	<b>15.8</b>	1.3	0.2	7.9%	0.2	1.2%	0.4	2.8%	0.0	0.0%
Transport	<b>62.1</b>	5.4	0.9	8.7%	0.9	1.5%	1.6	2.5%	0.9	1.4%
Fugitive Emissions	<b>32.3</b>	4.0	0.4	12.3%	0.4	1.2%	0.0	0.0%	0.0	IE
<b>INDUSTRIAL PROCESSES</b>	<b>24.4</b>	1.5	0.0	6.2%	0.0	0.1%	1.4	5.8%	0.0	0.2%
AGRICULTURE	<b>86.8</b>	5.6	5.7	6.4%	5.7	6.5%	2.3	2.6%	0.0	0.1%
Livestock	<b>66.0</b>	4.4	1.8	6.7%	1.8	2.8%	1.8	2.7%	0.0	0.1%
Other Agriculture	<b>20.8</b>	1.1	3.8	5.5%	3.8	18.3%	0.5	2.3%	0.0	0.0%
WASTE	<b>17.9</b>	1.3	0.1	7.1%	0.1	0.6%	0.4	2.1%	0.2	1.0%
OTHER	<b>NA</b>	1.4	0.0	NA	0.0	NA	0.0	NA	0.0	NA
LAND USE, LAND USE CHANGE AND FORESTRY	<b>131.5</b>	1.5	0.9	1.2%	0.9	0.7%	3.5	2.7%	0.0	0.0%
Afforestation and reforestation										
Land use change (deforestation)	<b>131.5</b>	1.5	0.9	1.2%	0.9	0.7%	3.5	2.7%	0.0	NO
<b>Inventory total (including LULUCF)</b>	<b>549.9</b>	<b>32.5</b>	<b>10.5</b>	<b>5.9%</b>	<b>10.5</b>	<b>1.9%</b>	<b>11.4</b>	<b>2.1%</b>	<b>1.2</b>	<b>0.2%</b>

Notes: a) These emissions estimates are made on a Kyoto accounting basis.

b) The national greenhouse gas inventory provides emissions estimates for a series of years beginning in 1990 because 1990 is the base year against which emissions in later years are compared under international reporting guidelines.

c) The State and Territory emissions estimates are consistent with the methodology applied for the 2008 National Greenhouse Gas Inventory. In future these estimates will be subject to revision in line with ongoing methodological development work being undertaken by the Department of Climate Change and Energy Efficiency to refine the national inventory estimates.

d) The difference between the national and the sum of the State and Territory emissions (less than 0.2%) reflects the inclusion of military transport and external territories in the national inventory, and a small balancing item.

e) Uncertainty assessments at a sectoral level are reported in the national inventory. While no quantitative estimates have been produced, the Department assesses that the uncertainties for emission estimates for these inventories, particularly the smaller states and territories, will be somewhat higher than for the national inventory.

f) The NSW inventory includes ACT emissions from the Stationary Energy sector.

NA – Not Applicable, IE – Included Elsewhere, NO – Not Occurring

Numbers may not sum to totals due to rounding

**Table 3: National, State and Territory Emissions by Sector in 2008 (a)(b)(c)(d)**

	AUSTRALIA		NSW (e)		QLD		VIC		WA		
	Emissions (Mt)	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions
<b>Inventory total (excluding LULUCF)</b>	<b>549.5</b>	<b>156.4</b>	<b>28.5%</b>	<b>131.3</b>	<b>23.9%</b>	<b>121.9</b>	<b>22.2%</b>	<b>79.5</b>	<b>14.5%</b>		
<b>SECTORS/KEY SUBSECTORS</b>											
<b>ENERGY SECTOR</b>	<b>416.6</b>	122.7	29.5%	97.3	23.3%	102.1	24.5%	57.7	13.9%		
Stationary Energy	296.4	81.2	27.4%	67.6	22.8%	80.3	27.1%	44.0	14.8%		
Energy Industries	226.4	67.6	29.9%	52.1	23.0%	66.2	29.2%	27.4	12.1%		
<i>Electricity generation</i>	204.3	63.2	30.9%	48.6	23.8%	63.2	30.9%	17.7	8.7%		
<i>Other energy industries</i>	22.1	4.4	20.1%	3.5	16.1%	3.0	13.4%	9.7	44.1%		
Manufacturing and construction	48.7	9.0	18.5%	12.5	25.8%	6.2	12.7%	14.2	29.2%		
Other sectors	21.4	4.6	21.3%	2.9	13.8%	8.0	37.2%	2.3	11.0%		
Transport	80.2	21.8	27.2%	19.5	24.3%	19.8	24.6%	9.2	11.5%		
Fugitive Emissions	39.9	19.8	49.5%	10.2	25.5%	2.0	5.0%	4.5	11.3%		
<b>INDUSTRIAL PROCESSES</b>	<b>31.1</b>	11.9	38.2%	4.3	13.9%	2.7	8.8%	7.1	22.8%		
AGRICULTURE	87.4	16.5	18.9%	26.6	30.4%	13.6	15.6%	13.4	15.4%		
Livestock	58.9	13.2	22.4%	21.8	37.0%	10.5	17.8%	5.7	9.8%		
Other Agriculture	28.5	3.4	11.8%	4.8	16.7%	3.1	11.0%	7.7	27.0%		
WASTE	14.4	5.2	36.4%	3.1	21.6%	3.5	24.1%	1.2	8.6%		
OTHER	NA	NA	NA	NA	NA	NA	NA	NA	NA		
LAND USE, LAND USE CHANGE AND FORESTRY	26.3	8.2	31.4%	29.0	110.3%	-2.8	-10.7%	-6.7	-25.7%		
Afforestation and reforestation	-23.0	-2.3	10.1%	-0.5	2.1%	-6.7	29.2%	-9.6	41.8%		
Land use change (deforestation)	49.3	10.6	21.5%	29.5	59.8%	3.9	7.9%	2.9	5.9%		
<b>Inventory total (including LULUCF)</b>	<b>575.8</b>	<b>164.7</b>	<b>28.6%</b>	<b>160.3</b>	<b>27.8%</b>	<b>119.1</b>	<b>20.7%</b>	<b>72.8</b>	<b>12.6%</b>		

	AUSTRALIA		SA		NT		TAS		ACT (partial inventory) <sup>(a)</sup>	
	Emissions (Mt)	33.4	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions	Emissions (Mt)	% Contribution to National Emissions
<b>Inventory total (excluding LULUCF)</b>	<b>549.5</b>	<b>33.4</b>	<b>6.1%</b>	<b>16.2</b>	<b>2.9%</b>	<b>8.6</b>	<b>1.6%</b>	<b>1.2</b>	<b>0.2%</b>	
<b>SECTORS/KEY SUBSECTORS</b>										
<b>ENERGY SECTOR</b>	<b>416.6</b>	24.2	5.8%	5.7	1.4%	4.8	1.2%	0.9	0.2%	
Stationary Energy	296.4	15.1	5.1%	4.1	1.4%	3.1	1.0%	0.0	0.0%	
Energy Industries	226.4	10.8	4.8%	1.4	0.6%	0.8	0.3%	0.0	IE	
<i>Electricity generation</i>	204.3	9.6	4.7%	1.3	0.6%	0.8	0.4%	0.0	IE	
<i>Other energy industries</i>	22.1	1.2	5.5%	0.1	0.6%	0.0	0.0%	0.0	IE	
Manufacturing and construction	48.7	2.5	5.2%	2.5	5.2%	1.8	3.8%	0.0	IE	
Other sectors	21.4	1.7	8.1%	0.2	0.9%	0.5	2.2%	0.0	0.0%	
Transport	80.2	5.8	7.3%	1.5	1.8%	1.8	2.2%	0.9	1.2%	
Fugitive Emissions	39.9	3.3	8.2%	0.1	0.3%	0.0	0.0%	0.0	0.0%	
<b>INDUSTRIAL PROCESSES</b>	<b>31.1</b>	1.8	5.9%	0.1	0.2%	1.4	4.6%	0.1	0.4%	
AGRICULTURE	87.4	5.0	5.7%	10.2	11.7%	2.0	2.3%	0.0	0.0%	
Livestock	58.9	3.6	6.2%	2.5	4.3%	1.5	2.6%	0.0	0.0%	
Other Agriculture	28.5	1.3	4.6%	7.7	27.1%	0.5	1.7%	0.0	0.0%	
WASTE	14.4	0.8	5.7%	0.1	0.8%	0.3	2.0%	0.1	0.7%	
OTHER	NA	1.6	NA	0.0	NA	0.0	NA	0.0	NA	
LAND USE, LAND USE CHANGE AND FORESTRY	26.3	-1.7	-6.4%	0.1	0.5%	0.5	2.1%	0.0	-0.1%	
Afforestation and reforestation	-23.0	-2.1	9.1%	-0.1	0.5%	-1.6	7.0%	0.0	0.1%	
Land use change (deforestation)	49.3	0.4	0.9%	0.2	0.5%	2.2	4.4%	0.0	NO	
<b>Inventory total (including LULUCF)</b>	<b>575.8</b>	<b>31.7</b>	<b>5.5%</b>	<b>16.3</b>	<b>2.8%</b>	<b>9.1</b>	<b>1.6%</b>	<b>1.2</b>	<b>0.2%</b>	

Notes: a) These emissions estimates are made on a Kyoto accounting basis.

b) The State and Territory emissions estimates are consistent with the methodology applied for the 2008 National Greenhouse Gas Inventory. In future these estimates will be subject to revision in line with ongoing methodological development work being undertaken by the Department of Climate Change and Energy Efficiency to refine the national inventory estimates.

c) The difference between the national and the sum of the State and Territory emissions (less than 0.2%) reflects the inclusion of military transport and external territories in the national inventory and a small balancing item.

d) Uncertainty assessments at a sectoral level are reported in the national inventory. While no quantitative estimates have been produced, the Department assesses that the uncertainties for emission estimates for these inventories, particularly the smaller states and territories, will be somewhat higher than for the national inventory.

e) The NSW inventory includes ACT emissions from the Stationary Energy sector.

NA – Not Applicable, IE – Included Elsewhere, NO – Not Occurring

Numbers may not sum to totals due to rounding

# Appendix 3 – State and Territory Emissions Trends

A full time-series of greenhouse gas emissions by State and Territory are presented in the Tables 4 – 11.

## New South Wales

**Table 4: New South Wales' CO<sub>2</sub> equivalent emissions 1990 – 2008**

Greenhouse Gas Source and Sink Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%	
<b>Total CO<sub>2</sub>-e emissions</b>	<b>164126</b>	<b>164126</b>																		<b>164668</b>	<b>0.3</b>
<b>1. Energy</b>	<b>97661</b>	<b>97805</b>	<b>99001</b>	<b>100127</b>	<b>98264</b>	<b>99635</b>	<b>102290</b>	<b>104341</b>	<b>104396</b>	<b>105027</b>	<b>107163</b>	<b>110334</b>	<b>110027</b>	<b>110727</b>	<b>114519</b>	<b>114852</b>	<b>117450</b>	<b>120667</b>	<b>122726</b>		<b>25.7</b>
A. Fuel Combustion (Sectoral Approach)	78335	78335	78861	79344	81154	81332	83455	85138	86681	86741	89001	90413	93497	93655	94985	96887	97044	98686	100194	102964	31.4
1. Energy Industries	47835	47835	47990	48360	49900	49520	50569	51394	53317	53886	55787	56811	59684	59810	60581	61852	61897	63585	65269	67606	41.3
2. Manufacturing Industries and Construction	8406	8406	8393	8017	7987	8165	8234	8592	7914	7698	7751	7563	7642	8079	8415	8823	9403	8978	9038	8997	7.0
3. Transport	18412	18412	18664	19070	19364	19814	20764	21199	21398	21049	21267	21799	21308	21049	21089	21733	21251	21562	21316	21803	18.4
4. Other Sectors	3511	3511	3652	3739	3740	3675	3739	3791	3874	3940	4045	4085	4705	4586	4756	4346	4323	4436	4454	4434	26.3
5. Other	171	171	161	157	165	158	150	163	177	167	152	155	159	131	145	134	170	125	117	125	-26.7
B. Fugitive Emissions from Fuels	19326	19326	18944	19656	18973	16932	16180	17152	17660	17655	16026	16749	16837	16373	15742	17632	17807	18763	20472	19762	2.3
1. Solid Fuels	16860	16860	16922	17578	17601	15621	15070	16304	16686	16857	15396	15966	16073	15639	15046	16922	17195	18127	19882	19201	13.9
2. Oil and Natural Gas	2466	2466	2022	2078	1372	1311	1111	848	974	798	630	763	734	697	710	612	637	590	561	561	-77.3
<b>2. Industrial Processes</b>	<b>12536</b>	<b>12536</b>	<b>12188</b>	<b>12019</b>	<b>11789</b>	<b>12632</b>	<b>12628</b>	<b>12498</b>	<b>12487</b>	<b>12559</b>	<b>13091</b>	<b>11184</b>	<b>11127</b>	<b>10565</b>	<b>11450</b>	<b>11653</b>	<b>11570</b>	<b>11787</b>	<b>11905</b>		<b>-5.0</b>
A. Mineral Products																					NA
B. Chemical Industry																					NA
C. Metal Production	7727	7727	7523	7488	7402	8489	8764	8745	8705	8273	8826	7951	6430	6163	5365	6081	6027	6079	6090	6177	-20.1
D. Other Production																					NA
E. Production of Halocarbons and SF <sub>6</sub>	386	386	384	359	492	276	244														NA
F. Consumption of Halocarbons and SF <sub>6</sub>	178	178	178	178	177	177	213	285	386	502	638	784	961	1130	1315	1505	1694	1803	1955	2044	1045.2
G. Other	4245	4245	4103	3994	3718	3690	3407	3467	3396	3783	3627	3640	3793	3834	3885	3864	3932	3688	3742	3685	-13.2
<b>3. Solvent and Other Product Use</b>																					NA

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
<b>4. Agriculture</b>	<b>22919</b>	<b>22765</b>	<b>22046</b>	<b>21499</b>	<b>20742</b>	<b>20536</b>	<b>20460</b>	<b>20853</b>	<b>20964</b>	<b>20932</b>	<b>21284</b>	<b>21143</b>	<b>20221</b>	<b>19442</b>	<b>18972</b>	<b>19138</b>	<b>18364</b>	<b>17430</b>	<b>16542</b>	<b>16542</b>	<b>-27.8</b>	
A. Enteric Fermentation	18005	18005	17817	17144	16546	15852	15218	15261	15194	15062	15050	14887	14355	14095	13903	13951	13460	12877	12295	12295	-31.7	
B. Manure Management	634	634	649	689	734	781	806	812	847	875	917	934	935	902	904	909	943	926	885	885	39.5	
C. Rice Cultivation	470	470	508	527	596	606	648	700	719	721	668	735	730	583	394	234	338	262	194	43	43	-90.9
D. Agricultural Soils	3633	3633	3615	3525	3466	3346	3419	3571	3841	3986	4120	4388	4411	4203	3913	3801	3781	3545	3307	3210	3210	-11.7
E. Prescribed Burning of Savannas	82	82	83	64	49	54	61	34	36	24	4	6	8	11	16	24	21	40	29	31	31	-62.6
F. Field Burning of Agricultural Residues	94	94	93	97	107	103	109	124	148	164	161	170	171	139	122	106	139	115	96	79	79	-16.4
G. Other																						NA
<b>5. Land Use, Land Use Change and Forestry</b>	<b>24224</b>	<b>24224</b>																			<b>8250</b>	<b>-65.9</b>
A. Afforestation and reforestation																						NA
B. Land use change (deforestation)	24224	24224																				-56.3
<b>6. Waste</b>	<b>6786</b>	<b>6786</b>	<b>6721</b>	<b>6692</b>	<b>6612</b>	<b>6394</b>	<b>6282</b>	<b>5881</b>	<b>5741</b>	<b>5497</b>	<b>5483</b>	<b>5365</b>	<b>5368</b>	<b>5439</b>	<b>5114</b>	<b>5037</b>	<b>5040</b>	<b>4917</b>	<b>4963</b>	<b>5245</b>	<b>5245</b>	<b>-22.7</b>
A. Solid Waste Disposal on Land	5793	5793	5730	5712	5646	5437	5349	5000	4916	4691	4689	4579	4548	4630	4331	4250	4284	4176	4181	4443	4443	-23.3
B. Waste-water Handling	951	951	947	937	922	913	890	837	822	802	791	782	817	806	780	783	752	738	778	798	798	-16.1
C. Waste Incineration	43	43	43	43	43	43	43	45	3	3	3	3	3	3	3	3	3	3	3	3	3	-92.0
D. Other																						NA
<b>7. Other</b>																						NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>164126</b>	<b>164126</b>																			<b>164668</b>	<b>0.3</b>
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>139903</b>	<b>139903</b>	<b>139479</b>	<b>139758</b>	<b>140027</b>	<b>138031</b>	<b>139082</b>	<b>141130</b>	<b>143423</b>	<b>143416</b>	<b>144534</b>	<b>146186</b>	<b>148029</b>	<b>146815</b>	<b>145850</b>	<b>149978</b>	<b>150683</b>	<b>152300</b>	<b>154846</b>	<b>156418</b>	<b>156418</b>	<b>11.8</b>

Note: The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

Table 5: Queensland's CO<sub>2</sub> equivalent emissions 1990 – 2008

Greenhouse Gas Source and Sink Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%	
<b>Total CO<sub>2</sub>-e emissions</b>	<b>165023</b>	<b>165023</b>																			<b>-2.9</b>
<b>1. Energy</b>	<b>49724</b>	<b>49724</b>	<b>50793</b>	<b>52641</b>	<b>55107</b>	<b>57039</b>	<b>60549</b>	<b>61899</b>	<b>65353</b>	<b>69818</b>	<b>71997</b>	<b>75021</b>	<b>77878</b>	<b>81417</b>	<b>87293</b>	<b>88486</b>	<b>92207</b>	<b>94198</b>	<b>96149</b>	<b>97268</b>	<b>95.6</b>
A. Fuel Combustion (Sectoral Approach)	46992	46992	47667	49300	51641	53153	55961	57838	59904	63793	66142	68071	70845	74419	79867	81163	83619	86101	86545	87076	85.3
1. Energy Industries	24537	24537	25260	26526	28208	28890	30935	31946	33211	37605	39385	39820	43335	45982	50551	50111	51169	53223	53019	52128	112.4
2. Manufacturing Industries and Construction	8627	8627	8489	8492	8574	8726	8569	8822	9027	8553	9109	9413	9278	9679	9864	10148	11474	11457	11529	12548	45.5
3. Transport	11894	11894	11974	12297	12759	13380	14209	14836	15356	15250	15155	16177	16034	16434	16850	18330	18317	18582	19150	19457	63.6
4. Other Sectors	1826	1826	1841	1881	1994	2047	2116	2113	2185	2265	2375	2530	2060	2123	2437	2418	2517	2703	2719	2818	54.4
5. Other	109	109	103	103	106	111	113	121	126	121	117	133	137	201	164	156	142	136	128	125	15.4
B. Fugitive Emissions from Fuels	2732	2732	3126	3342	3466	3886	4588	4061	5449	6025	5855	6950	7032	6998	7427	7324	8588	8097	9604	10192	273.0
1. Solid Fuels	2321	2321	2674	2886	2956	3320	3992	3420	4735	5381	5135	6365	6327	6276	6749	6665	7819	7427	8954	9494	309.1
2. Oil and Natural Gas	412	412	452	456	510	566	596	641	714	644	721	584	706	722	677	658	769	671	650	698	69.4
<b>2. Industrial Processes</b>	<b>2736</b>	<b>2736</b>	<b>2678</b>	<b>2784</b>	<b>2724</b>	<b>2420</b>	<b>2299</b>	<b>2334</b>	<b>2439</b>	<b>2756</b>	<b>2669</b>	<b>2786</b>	<b>3133</b>	<b>3321</b>	<b>3610</b>	<b>3823</b>	<b>4002</b>	<b>4059</b>	<b>4264</b>	<b>4340</b>	<b>58.6</b>
A. Mineral Products																					NA
B. Chemical Industry																					NA
C. Metal Production																					NA
D. Other Production																					NA
E. Production of Halocarbons and SF <sub>6</sub>	190	190	192	181	252	144	129														NA
F. Consumption of Halocarbons and SF <sub>6</sub>	88	88	89	90	91	92	113	153	208	272	348	429	529	627	751	875	1002	1082	1188	1257	1326.7
G. Other	2457	2457	2397	2513	2381	2184	2058	2181	2231	2483.9	2321.2	2356.6	2603.9	2693.5	2858.9	2948.0	3000.4	2976.8	3075.5	3083.8	25.5
<b>3. Solvent and Other Product Use</b>																					NA

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
<b>4. Agriculture</b>	<b>23626</b>	<b>24146</b>	<b>24095</b>	<b>23544</b>	<b>23057</b>	<b>22936</b>	<b>23006</b>	<b>23557</b>	<b>23879</b>	<b>25199</b>	<b>25665</b>	<b>26623</b>	<b>25785</b>	<b>26020</b>	<b>26019</b>	<b>26246</b>	<b>26320</b>	<b>26212</b>	<b>26576</b>	<b>26576</b>	<b>12.5</b>	
A. Enteric Fermentation	19246	19246	19783	19788	19265	18770	18635	18688	19132	19420	20409	20783	20103	20211	20314	20657	20623	20634	20704	20704	7.6	
B. Manure Management	505	505	514	540	580	625	656	664	752	836	930	966	1000	1044	1124	1184	1183	1138	1115	1115	120.7	
C. Rice Cultivation	19	19	15	12	6																NA	
D. Agricultural Soils	2821	2821	2811	2735	2675	2639	2662	2692	2797	2904	3118	3206	3309	3222	3284	3285	3292	3219	3166	3211	13.8	
E. Prescribed Burning of Savannas	941	941	941	941	941	941	1001	876	793	638	880	1012	1485	1398	1416	1231	1048	1230	1208	1476	56.8	
F. Field Burning of Agricultural Residues	93	93	81	78	76	82	83	86	85	82	79	72	69	61	65	65	65	65	66	70	-24.5	
G. Other																					NA	
<b>5. Land Use, Land Use Change and Forestry</b>	<b>85755</b>	<b>85755</b>																		<b>28969</b>	<b>-66.2</b>	
A. Afforestation and reforestation																					-487	NA
B. Land use change (deforestation)	85755	85755																		29456	-65.7	
<b>6. Waste</b>	<b>3183</b>	<b>3183</b>	<b>3178</b>	<b>3190</b>	<b>3204</b>	<b>3221</b>	<b>3162</b>	<b>2988</b>	<b>3034</b>	<b>3027</b>	<b>3114</b>	<b>3158</b>	<b>3260</b>	<b>3182</b>	<b>3011</b>	<b>2906</b>	<b>2710</b>	<b>2614</b>	<b>2978</b>	<b>3112</b>	<b>-2.2</b>	
A. Solid Waste Disposal on Land	2454	2454	2449	2465	2483	2501	2453	2336	2396	2398	2493	2546	2614	2544	2382	2266	2086	1996	2322	2452	-0.1	
B. Waste-water Handling	702	702	702	698	694	693	682	647	634	625	617	608	641	633	624	635	618	613	650	655	-6.7	
C. Waste Incineration	27	27	27	27	27	27	28	4	4	4	4	5	5	5	5	5	5	5	5	5	-79.7	
D. Other																					NA	
<b>7. Other</b>																					NA	
NA																					NA	
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>165023</b>	<b>165023</b>																		<b>160265</b>	<b>-2.9</b>	
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>79269</b>	<b>79269</b>	<b>80795</b>	<b>82711</b>	<b>84579</b>	<b>85737</b>	<b>88947</b>	<b>90227</b>	<b>94384</b>	<b>99481</b>	<b>102980</b>	<b>106629</b>	<b>113704</b>	<b>119934</b>	<b>121234</b>	<b>125165</b>	<b>127191</b>	<b>129603</b>	<b>131296</b>	<b>131296</b>	<b>65.6</b>	

Note: The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

Table 6: Victoria's CO<sub>2</sub> equivalent emissions 1990 – 2008

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year		
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%	
<b>Total CO<sub>2</sub>e emissions</b>	<b>106698</b>	<b>106698</b>																				<b>119095</b>	<b>11.6</b>
<b>1. Energy</b>	<b>80700</b>	<b>80700</b>	<b>81226</b>	<b>82619</b>	<b>80870</b>	<b>80214</b>	<b>84112</b>	<b>86249</b>	<b>88707</b>	<b>95698</b>	<b>97959</b>	<b>100193</b>	<b>99525</b>	<b>98667</b>	<b>102020</b>	<b>104090</b>	<b>102861</b>	<b>102520</b>	<b>101038</b>	<b>102098</b>		<b>26.5</b>	
A. Fuel Combustion (Sectoral Approach)	76980	76980	77948	79335	77614	77345	80541	83203	85838	93217	95766	97632	97059	96467	100162	102064	100881	100726	99190	100083		30.0	
1. Energy Industries	47280	47280	49412	50783	48516	48762	50961	53231	55866	62589	65040	65934	65519	63762	67439	68045	66739	66733	65939	66163		39.9	
2. Manufacturing Industries and Construction	7140	7140	6697	6294	6367	6092	6297	5993	5763	5940	5686	6110	5524	5528	5138	5700	6087	6067	5880	6197		-13.2	
3. Transport	16310	16310	15585	15799	16064	15979	16386	16781	16969	17389	17946	18336	18143	19179	19283	20312	19926	20070	19524	19755		21.1	
4. Other Sectors	6110	6110	6130	6331	6535	6369	6756	7053	7113	7165	6952	7102	7734	7876	8173	7884	7970	7747	7746	7862		28.7	
5. Other	140	140	124	129	132	142	140	144	128	135	142	150	137	122	128	123	159	109	100	106		-24.2	
B. Fugitive Emissions from Fuels	3719	3719	3277	3284	3256	2870	3571	3046	2868	2481	2193	2561	2467	2200	1858	2026	1980	1793	1848	2015		-45.8	
1. Solid Fuels	33	33	35	36	34	35	35	39	43	46	47	48	46	47	47	47	48	48	47	47		43.7	
2. Oil and Natural Gas	3687	3687	3242	3248	3222	2834	3536	3008	2825	2435	2146	2513	2420	2153	1811	1979	1932	1745	1801	1968		-46.6	
<b>2. Industrial Processes</b>	<b>2256</b>	<b>2256</b>	<b>2248</b>	<b>2229</b>	<b>2054</b>	<b>1650</b>	<b>1484</b>	<b>1409</b>	<b>1438</b>	<b>1711</b>	<b>1700</b>	<b>1835</b>	<b>2116</b>	<b>2274</b>	<b>2417</b>	<b>2563</b>	<b>2736</b>	<b>2560</b>	<b>2694</b>	<b>2736</b>		<b>21.3</b>	
A. Mineral Products																						NA	
B. Chemical Industry																						NA	
C. Metal Production																						NA	
D. Other Production																						NA	
E. Production of Halocarbons and SF <sub>6</sub>	289	289	289	269	367	205	180															NA	
F. Consumption of Halocarbons and SF <sub>6</sub>	134	134	134	133	132	132	158	210	283	367	467	573	702	826	970	1118	1266	1356	1479	1555		1062.9	
G. Other	1833	1833	1826	1827	1554	1314	1146	1199	1155	1343	1233	1263	1414	1448	1446	1445	1470	1204	1215	1181		-35.6	
<b>3. Solvent and Other Product Use</b>																						NA	
<b>4. Agriculture</b>	<b>14770</b>	<b>14770</b>	<b>14817</b>	<b>14567</b>	<b>14630</b>	<b>14609</b>	<b>14863</b>	<b>14968</b>	<b>15009</b>	<b>14916</b>	<b>14966</b>	<b>15403</b>	<b>15797</b>	<b>15804</b>	<b>15679</b>	<b>15738</b>	<b>15676</b>	<b>15280</b>	<b>14347</b>	<b>13606</b>		<b>-7.9</b>	

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
A. Enteric Fermentation	11346	11346	11293	10985	10884	10826	11005	11106	11103	11002	11008	11233	11414	11362	11246	11339	11197	10928	10243	9729	-14.3	
B. Manure Management	498	498	525	557	606	637	668	663	706	744	777	816	833	856	845	797	737	48.0	0	0	0	NA
C. Rice Cultivation								4	3	3	3	6	8	7	5	3	4	3	2	0	0	NA
D. Agricultural Soils	2886	2886	2967	2991	3098	3106	3150	3155	3175	3164	3170	3335	3499	3536	3526	3512	3564	3463	3263	3073	6.5	
E. Prescribed Burning of Savannas	16	16	6	5	6	9	8	7	6	8	7	12	12	28	25	23	8	9	8	41	153.5	
F. Field Burning of Agricultural Residues	24	24	26	29	35	31	32	33	37	33	34	40	48	38	39	33	46	33	33	25	5.1	
G. Other																						NA
<b>5. Land Use, Land Use Change and Forestry</b>	<b>4364</b>	<b>4364</b>																		<b>-2817</b>	<b>-164.5</b>	
A. Afforestation and reforestation																						NA
B. Land use change (deforestation)	4364	4364																				-10.6
<b>6. Waste</b>	<b>4608</b>	<b>4608</b>	<b>4611</b>	<b>4573</b>	<b>4533</b>	<b>4342</b>	<b>4352</b>	<b>3805</b>	<b>3757</b>	<b>3508</b>	<b>3588</b>	<b>3535</b>	<b>3587</b>	<b>3737</b>	<b>3715</b>	<b>3654</b>	<b>3600</b>	<b>3545</b>	<b>3503</b>	<b>3472</b>	<b>-24.7</b>	
A. Solid Waste Disposal on Land	3361	3361	3351	3310	3274	3082	3098	2596	2545	2303	2390	2343	2350	2502	2492	2420	2388	2336	2241	2179	-35.2	
B. Waste-water Handling	1235	1235	1248	1251	1247	1248	1236	1194	1195	1187	1180	1175	1221	1218	1205	1217	1196	1192	1245	1275	3.2	
C. Waste Incineration	12	12	12	12	12	12	18	14	18	18	18	17	17	17	17	17	17	17	17	17	40.8	
D. Other																						NA
<b>7. Other</b>																						NA
NA																						NA
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>106698</b>	<b>106698</b>																		<b>119095</b>	<b>11.6</b>	
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>102334</b>	<b>102334</b>	<b>102902</b>	<b>103988</b>	<b>102087</b>	<b>100816</b>	<b>104810</b>	<b>106431</b>	<b>108911</b>	<b>115833</b>	<b>118213</b>	<b>120967</b>	<b>121025</b>	<b>120481</b>	<b>123830</b>	<b>126045</b>	<b>124873</b>	<b>123905</b>	<b>121582</b>	<b>121912</b>	<b>19.1</b>	

Note: The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

# South Australia

**Table 7: South Australia's CO<sub>2</sub> equivalent emissions 1990 – 2008**

Greenhouse Gas Source and Sink Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%	
<b>Total CO<sub>2</sub>e emissions</b>	<b>32488</b>	<b>32488</b>																			<b>-2.5</b>
<b>1. Energy</b>	<b>21241</b>	<b>19566</b>	<b>20628</b>	<b>20741</b>	<b>20707</b>	<b>20726</b>	<b>19656</b>	<b>20369</b>	<b>21459</b>	<b>22060</b>	<b>22351</b>	<b>22716</b>	<b>22955</b>	<b>23198</b>	<b>22555</b>	<b>23072</b>	<b>22629</b>	<b>23609</b>	<b>24166</b>		<b>13.8</b>
A. Fuel Combustion (Sectoral Approach)	17273	15980	16784	17170	17018	16890	16021	16562	16928	18110	18195	18537	18823	19314	19159	19742	19404	20377	20877		20.9
1. Energy Industries	8675	7604	8290	8431	8198	7851	7036	7533	7828	8897	8948	9435	9597	9453	9223	9689	9391	10593	10793		24.4
2. Manufacturing Industries and Construction	1931	1880	1919	2031	2083	2286	2229	2162	2047	2040	2069	2119	2218	2367	2400	2716	2595	2362	2523		30.7
3. Transport	5416	5416	5272	5370	5426	5420	5466	5509	5674	5777	5771	5573	5663	5764	5881	5629	5735	5740	5823		7.5
4. Other Sectors	1199	1199	1218	1265	1274	1294	1258	1325	1341	1355	1361	1368	1302	1679	1565	1641	1654	1652	1702		41.9
5. Other	52	52	43	38	37	38	32	34	38	41	46	42	43	50	89	67	31	31	36		-30.5
B. Fugitive Emissions from Fuels	3967	3967	3845	3571	3690	3836	3635	3807	4531	3950	4156	4179	4132	3885	3395	3330	3225	3232	3289		-17.1
1. Solid Fuels	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3		31.6
2. Oil and Natural Gas	3965	3965	3843	3569	3688	3834	3633	3805	4529	3948	4154	4177	4129	3882	3393	3328	3222	3230	3287		-17.1
<b>2. Industrial Processes</b>	<b>1511</b>	<b>1472</b>	<b>2054</b>	<b>1967</b>	<b>1793</b>	<b>1811</b>	<b>1733</b>	<b>1772</b>	<b>1846</b>	<b>1801</b>	<b>1828</b>	<b>1835</b>	<b>1835</b>	<b>1892</b>	<b>1890</b>	<b>1719</b>	<b>1629</b>	<b>1792</b>	<b>1832</b>		<b>21.2</b>
A. Mineral Products																					NA
B. Chemical Industry																					NA
C. Metal Production	1372	1372	1334	1922	1804	1683	1701	1665	1681	1728	1652	1613	1576	1591	1544	1329	1214	1343	1362		-0.7
D. Other Production																					NA
E. Production of Halocarbons and SF <sub>6</sub>	95	95	88	120	67	59															NA
F. Consumption of Halocarbons and SF <sub>6</sub>	44	44	43	43	43	51	68	91	118	150	183	222	259	302	346	389	415	449	469		970.3
G. Other																					NA
<b>3. Solvent and Other Product Use</b>																					NA
<b>4. Agriculture</b>	<b>5561</b>	<b>5561</b>	<b>5513</b>	<b>5449</b>	<b>5328</b>	<b>5236</b>	<b>5179</b>	<b>5259</b>	<b>5312</b>	<b>5435</b>	<b>5538</b>	<b>5688</b>	<b>5701</b>	<b>5779</b>	<b>5717</b>	<b>5654</b>	<b>5401</b>	<b>5116</b>	<b>4954</b>		<b>-10.9</b>

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	%
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
A. Enteric Fermentation	4181	4181	4148	4077	4004	3907	3803	3713	3702	3672	3716	3706	3777	3825	3923	3936	3817	3670	3415	3332	3332	-20.3
B. Manure Management	236	236	234	240	250	256	257	264	283	308	334	350	345	328	304	290	297	303	309	304	304	28.8
C. Rice Cultivation																						NA
D. Agricultural Soils	1070	1070	1103	1112	1136	1116	1125	1153	1220	1275	1318	1410	1487	1490	1495	1434	1472	1365	1325	1261	1261	17.9
E. Prescribed Burning of Savannas	44	44	50	48	20	14	14	13	10	11	23	23	22	4	4	12	13	21	26	24	24	-45.3
F. Field Burning of Agricultural Residues	31	31	36	36	38	34	35	37	43	45	44	49	56	54	54	44	54	42	40	32	32	3.1
G. Other																						NA
<b>5. Land Use, Land Use Change and Forestry</b>	<b>1538</b>	<b>1538</b>																				<b>-209.3</b>
A. Afforestation and reforestation																						NA
B. Land use change (deforestation)	1538	1538																				-2100
<b>6. Waste</b>	<b>1266</b>	<b>1266</b>	<b>1263</b>	<b>1128</b>	<b>1151</b>	<b>1004</b>	<b>1171</b>	<b>937</b>	<b>899</b>	<b>786</b>	<b>807</b>	<b>777</b>	<b>788</b>	<b>845</b>	<b>817</b>	<b>784</b>	<b>734</b>	<b>741</b>	<b>762</b>	<b>825</b>	<b>825</b>	<b>-34.8</b>
A. Solid Waste Disposal on Land	945	945	944	814	843	701	878	664	635	531	557	531	529	594	576	542	504	518	526	589	589	-37.7
B. Waste-water Handling	319	319	317	312	306	301	292	271	261	254	248	244	257	250	240	240	228	222	235	234	234	-26.6
C. Waste Incineration	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	12.5
D. Other																						NA
<b>7. Other<sup>b</sup></b>	<b>1372</b>	<b>1372</b>	<b>1284</b>	<b>1225</b>	<b>1274</b>	<b>1465</b>	<b>1420</b>	<b>1432</b>	<b>1412</b>	<b>1528</b>	<b>1515</b>	<b>1491</b>	<b>1460</b>	<b>1465</b>	<b>1500</b>	<b>1488</b>	<b>1510</b>	<b>1572</b>	<b>1601</b>	<b>1588</b>	<b>1588</b>	<b>15.7</b>
Emissions Not Elsewhere Classified	1372	1372	1284	1225	1274	1465	1420	1432	1412	1528	1515	1491	1460	1465	1500	1488	1510	1572	1601	1588	1588	15.7
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>32488</b>	<b>32488</b>																				<b>31684</b>
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>30950</b>	<b>30950</b>	<b>29156</b>	<b>30548</b>	<b>30582</b>	<b>30297</b>	<b>30364</b>	<b>28936</b>	<b>29711</b>	<b>30931</b>	<b>31619</b>	<b>31986</b>	<b>32486</b>	<b>32801</b>	<b>33188</b>	<b>32434</b>	<b>32688</b>	<b>31972</b>	<b>32881</b>	<b>33364</b>	<b>33364</b>	<b>7.8</b>

Notes: a) The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

b) State share of national emissions not allocated to sectors.

c) Scope 2 emissions associated with the consumption of purchased electricity imported from other States and Territories net of scope 2 emissions associated with the export of purchased electricity to other States and Territories were estimated at 601 Gg CO<sub>2</sub>-e in South Australia in 1990, 4516 CO<sub>2</sub>-e Gg in 2000, 3182 CO<sub>2</sub>-e Gg in 2006, 1363 CO<sub>2</sub>-e Gg in 2007 and 393 Gg CO<sub>2</sub>-e in 2008 (source: *National Inventory by Economic Sector 2007*). Combined scope 1 (including net CO<sub>2</sub> from LULUCF) and scope 2 emissions, incorporating the import and export of purchased electricity with other States and Territories, were estimated at 33,089 Gg CO<sub>2</sub>-e in 1990 and 32,241 Gg CO<sub>2</sub>-e in 2008.

# Western Australia

**Table 8: Western Australia's CO<sub>2</sub> equivalent emissions 1990 – 2008**

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
<b>Total CO<sub>2</sub>e emissions</b>	<b>58136</b>	<b>58136</b>																			<b>72764</b>	<b>25.2</b>
<b>1. Energy</b>	<b>31050</b>	<b>31050</b>	<b>33083</b>	<b>34072</b>	<b>35249</b>	<b>36919</b>	<b>39445</b>	<b>41617</b>	<b>42717</b>	<b>43267</b>	<b>44226</b>	<b>45426</b>	<b>46657</b>	<b>47558</b>	<b>50045</b>	<b>51046</b>	<b>51933</b>	<b>51170</b>	<b>54665</b>	<b>57713</b>	<b>85.9</b>	
A. Fuel Combustion (Sectoral Approach)	28922	28922	30644	31385	32402	33841	35672	37877	39059	39632	40287	41128	41959	43174	45992	46981	48123	47001	50389	53187	83.9	
1. Energy Industries	13332	13332	14448	14815	15521	16118	17059	18343	18570	19131	19118	19745	20578	20800	21887	21945	22770	23202	24808	27399	105.5	
2. Manufacturing Industries and Construction	7346	7346	8029	8204	8383	8592	8990	9213	9757	9800	10322	10560	10619	11209	12622	13168	12958	12566	13630	14228	93.7	
3. Transport	6670	6670	6612	6740	6772	7294	7707	8353	8747	8712	8792	8754	8705	9013	9076	9449	9868	8981	9679	9210	38.1	
4. Other Sectors	1503	1503	1485	1554	1652	1759	1835	1886	1903	1905	1979	1998	1969	2067	2304	2268	2374	2180	2209	2283	51.9	
5. Other	70	70	71	72	74	79	81	82	82	83	77	71	87	85	103	150	153	72	64	67	-5.1	
B. Fugitive Emissions from Fuels	2128	2128	2439	2687	2847	3077	3773	3740	3657	3635	3938	4299	4698	4384	4053	4065	3810	4169	4276	4526	112.7	
1. Solid Fuels	70	70	89	90	92	88	99	102	95	99	106	113	106	106	105	102	106	107	110	115	63.4	
2. Oil and Natural Gas	2058	2058	2350	2597	2755	2989	3674	3638	3562	3536	3832	4186	4592	4278	3948	3963	3704	4062	4166	4411	114.4	
<b>2. Industrial Processes</b>	<b>2474</b>	<b>2474</b>	<b>2346</b>	<b>2574</b>	<b>2948</b>	<b>3014</b>	<b>3157</b>	<b>3249</b>	<b>3276</b>	<b>3634</b>	<b>3587</b>	<b>4118</b>	<b>5399</b>	<b>5625</b>	<b>6850</b>	<b>6969</b>	<b>5570</b>	<b>6986</b>	<b>7540</b>	<b>7103</b>	<b>187.1</b>	
A. Mineral Products																					NA	
B. Chemical Industry																					NA	
C. Metal Production												287	1101	1173	1715	1636					NA	
D. Other Production																					NA	
E. Production of Halocarbons and SF <sub>6</sub>	106	106	107	100	137	77	69														NA	
F. Consumption of Halocarbons and SF <sub>6</sub>	49	49	49	49	49	50	60	81	110	144	184	226	278	327	385	445	506	545	598	635	1194.3	
G. Other	2319	2319	2190	2424	2761	2887	3028	3168	3166	3490	3403	3605	4020	4125	4750	4889	5064	6441	6941	6467	178.9	
<b>3. Solvent and Other Product Use</b>																					NA	
<b>4. Agriculture</b>	<b>11991</b>	<b>11991</b>	<b>11842</b>	<b>11485</b>	<b>11790</b>	<b>12668</b>	<b>13190</b>	<b>13336</b>	<b>13485</b>	<b>13168</b>	<b>13935</b>	<b>15006</b>	<b>15308</b>	<b>14353</b>	<b>12263</b>	<b>12847</b>	<b>12579</b>	<b>13778</b>	<b>13353</b>	<b>13444</b>	<b>12.1</b>	

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
A. Enteric Fermentation	7547	7547	7426	7204	7067	6939	6852	6677	6545	6371	6413	6290	6210	6003	6165	6403	6522	6361	5932	5503	5503	-27.1
B. Manure Management	152	152	159	170	180	185	191	193	200	202	207	210	227	236	239	235	244	262	257	244	244	61.0
C. Rice Cultivation												0	0	0	0							NA
D. Agricultural Soils	2140	2140	2156	2161	2262	2368	2498	2552	2641	2643	2792	2819	2825	2623	2637	2768	2818	2750	2604	2566	2566	19.9
E. Prescribed Burning of Savannas	2104	2104	2055	1897	2224	3118	3588	3850	4024	3874	4441	5611	5970	5428	3141	3356	2893	4324	4483	5056	5056	140.4
F. Field Burning of Agricultural Residues	48	48	48	52	57	58	62	65	74	79	83	76	77	63	82	85	102	82	76	74	74	54.1
G. Other																						NA
<b>5. Land Use, Land Use Change and Forestry</b>	<b>11234</b>	<b>11234</b>	<b>11234</b>																	<b>-6737</b>	<b>-6737</b>	<b>-160.0</b>
A. Afforestation and reforestation																						NA
B. Land use change (deforestation)	11234	11234																				-74.3
<b>6. Waste</b>	<b>1388</b>	<b>1388</b>	<b>1398</b>	<b>1406</b>	<b>1416</b>	<b>1431</b>	<b>1445</b>	<b>1456</b>	<b>1479</b>	<b>1505</b>	<b>1536</b>	<b>1564</b>	<b>1598</b>	<b>1499</b>	<b>1203</b>	<b>1123</b>	<b>1194</b>	<b>1140</b>	<b>1249</b>	<b>1240</b>	<b>1240</b>	<b>-10.6</b>
A. Solid Waste Disposal on Land	1131	1131	1141	1152	1165	1181	1200	1224	1251	1281	1314	1344	1368	1272	982	899	977	926	1023	1014	1014	-10.4
B. Waste-water Handling	256	256	256	254	250	249	244	231	227	223	221	219	229	226	220	223	216	213	225	225	225	-12.0
C. Waste Incineration	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	36.0
D. Other																						NA
<b>7. Other</b>																						NA
NA																						NA
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>58136</b>	<b>58136</b>																		<b>72764</b>	<b>72764</b>	<b>25.2</b>
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>46902</b>	<b>46902</b>	<b>48669</b>	<b>49536</b>	<b>51403</b>	<b>54032</b>	<b>57236</b>	<b>59658</b>	<b>60956</b>	<b>61574</b>	<b>63284</b>	<b>66114</b>	<b>68962</b>	<b>69035</b>	<b>70361</b>	<b>71986</b>	<b>71275</b>	<b>73074</b>	<b>76806</b>	<b>79500</b>	<b>79500</b>	<b>69.5</b>

Note: The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

# Northern Territory

**Table 9: Northern Territory's CO<sub>2</sub> equivalent emissions 1990 – 2008**

Greenhouse Gas Source and Sink Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%	
<b>Total CO<sub>2</sub>e emissions</b>	<b>10485</b>	<b>10485</b>																		<b>16312</b>	<b>55.6</b>
<b>1. Energy</b>	<b>3781</b>	<b>3910</b>	<b>4028</b>	<b>4089</b>	<b>4121</b>	<b>4113</b>	<b>4524</b>	<b>4647</b>	<b>4691</b>	<b>4878</b>	<b>5373</b>	<b>5203</b>	<b>5003</b>	<b>4919</b>	<b>5078</b>	<b>5312</b>	<b>5692</b>	<b>5684</b>	<b>5746</b>	<b>52.0</b>	
A. Fuel Combustion (Sectoral Approach)	3399	3399	3669	3783	3918	3928	4359	4516	4577	4768	5016	4703	4679	4692	4926	5183	5582	5556	5614	65.2	
1. Energy Industries	902	902	911	904	908	976	1109	1157	1204	1300	1285	1226	1282	1299	1513	1677	1766	1579	1428	58.2	
2. Manufacturing Industries and Construction	1352	1352	1445	1530	1615	1577	1674	1770	1811	1869	2118	1935	1818	1866	1864	2038	2226	2255	2534	87.4	
3. Transport	950	950	1050	1085	1130	1189	1386	1381	1351	1369	1381	1318	1352	1304	1333	1343	1409	1540	1468	54.6	
4. Other Sectors	188	188	172	172	173	179	182	201	204	224	227	215	221	212	211	120	176	176	176	-6.3	
5. Other	8	8	7	7	7	6	7	7	7	6	6	10	7	11	6	6	6	6	8	11.1	
B. Fugitive Emissions from Fuels	382	382	372	359	306	306	203	166	131	114	110	500	324	227	152	128	110	128	132	-65.4	
1. Solid Fuels																				NA	
2. Oil and Natural Gas	382	382	372	359	306	306	203	166	131	114	110	500	324	227	152	128	110	128	132	-65.4	
<b>2. Industrial Processes</b>	<b>16</b>	<b>16</b>	<b>15</b>	<b>20</b>	<b>13</b>	<b>14</b>	<b>9</b>	<b>12</b>	<b>15</b>	<b>20</b>	<b>24</b>	<b>30</b>	<b>34</b>	<b>39</b>	<b>45</b>	<b>52</b>	<b>56</b>	<b>61</b>	<b>64</b>	<b>308.1</b>	
A. Mineral Products																				NA	
B. Chemical Industry																				NA	
C. Metal Production																				NA	
D. Other Production																				NA	
E. Production of Halocarbons and SF <sub>6</sub>	11	11	10	14	8	7														NA	
F. Consumption of Halocarbons and SF <sub>6</sub>	5	5	5	5	5	6	9	12	15	20	24	30	34	39	45	52	56	61	64	1190.4	
G. Other																				NA	
<b>3. Solvent and Other Product Use</b>																				NA	

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	%
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	
<b>4. Agriculture</b>	<b>5651</b>	<b>5651</b>	<b>5536</b>	<b>5310</b>	<b>5588</b>	<b>6615</b>	<b>7160</b>	<b>7244</b>	<b>7204</b>	<b>7316</b>	<b>8299</b>	<b>9341</b>	<b>11320</b>	<b>11412</b>	<b>9659</b>	<b>9333</b>	<b>7539</b>	<b>8919</b>	<b>9013</b>	<b>10248</b>	<b>81.3</b>	
A. Enteric Fermentation	1828	1828	1817	1813	1842	1866	1943	1981	2050	2072	2084	2129	2219	2281	2301	2292	2337	2425	2543	2524	38.1	
B. Manure Management	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	4	4	3	3	-39.1	
C. Rice Cultivation	1	1	1	1	1	0	1	1	1	0	0										NA	
D. Agricultural Soils	401	401	392	374	394	471	509	513	506	515	591	673	825	835	699	671	533	637	644	739	84.2	
E. Prescribed Burning of Savannas	3417	3417	3322	3118	3346	4273	4703	4746	4643	4724	5620	6535	8271	8292	6654	6366	4664	5854	5823	6983	104.4	
F. Field Burning of Agricultural Residues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	138.9	
G. Other																					NA	
<b>5. Land Use, Land Use Change and Forestry</b>	<b>922</b>	<b>922</b>																		<b>118</b>	<b>-87.2</b>	
A. Afforestation and reforestation	-12																				-120	914.7
B. Land use change (deforestation)	922	922																			239	-74.1
<b>6. Waste</b>	<b>103</b>	<b>103</b>	<b>104</b>	<b>104</b>	<b>104</b>	<b>104</b>	<b>106</b>	<b>109</b>	<b>113</b>	<b>118</b>	<b>123</b>	<b>128</b>	<b>133</b>	<b>138</b>	<b>142</b>	<b>142</b>	<b>104</b>	<b>88</b>	<b>95</b>	<b>118</b>	<b>14.2</b>	
A. Solid Waste Disposal on Land	87	87	87	88	87	87	88	91	95	99	104	109	115	119	124	123	85	69	75	98	12.9	
B. Waste-water Handling	16	16	16	17	17	17	18	18	18	18	18	18	19	19	18	18	19	19	19	20	21.3	
C. Waste Incineration																					NA	
D. Other																					NA	
<b>7. Other<sup>b</sup></b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>12</b>	<b>11</b>	<b>12</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>18</b>	<b>47.8</b>	
Emissions Not Elsewhere Classified	12	12	12	12	11	12	18	18	18	17	17	17	17	17	17	17	17	17	17	18	47.8	
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>10485</b>	<b>10485</b>																		<b>16312</b>	<b>55.6</b>	
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>9563</b>	<b>9563</b>	<b>9577</b>	<b>9469</b>	<b>9812</b>	<b>10866</b>	<b>11411</b>	<b>11904</b>	<b>11994</b>	<b>12158</b>	<b>13336</b>	<b>14883</b>	<b>16703</b>	<b>16605</b>	<b>14777</b>	<b>14616</b>	<b>13023</b>	<b>14772</b>	<b>14870</b>	<b>16194</b>	<b>69.3</b>	

Notes: a) The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

b) State share of national emissions not allocated to sectors.

# Tasmania

**Table 10: Tasmania's CO<sub>2</sub> equivalent emissions 1990 – 2008**

Greenhouse Gas Source and Sink Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year %
Base Year (Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
<b>Total CO<sub>2</sub>-e emissions</b>	<b>11352</b>	<b>11352</b>																	<b>9098</b>	<b>-19.9</b>
<b>1. Energy</b>	<b>3783</b>	<b>3897</b>	<b>3254</b>	<b>3409</b>	<b>3473</b>	<b>3503</b>	<b>3506</b>	<b>3527</b>	<b>3530</b>	<b>3668</b>	<b>3722</b>	<b>3745</b>	<b>3761</b>	<b>3757</b>	<b>4164</b>	<b>4430</b>	<b>4344</b>	<b>4634</b>	<b>4840</b>	<b>27.9</b>
A. Fuel Combustion (Sectoral Approach)	3783	3889	3246	3402	3465	3494	3498	3519	3522	3660	3714	3737	3752	3749	4155	4412	4328	4619	4822	27.5
1. Energy Industries	556	556	61	57	65	67	68	67	68	69	65	112	112	357	440	594	422	622	755	35.8
2. Manufacturing Industries and Construction	1230	1230	1170	1314	1391	1383	1388	1417	1413	1562	1615	1646	1584	1245	1441	1605	1659	1739	1827	48.6
3. Transport	1559	1559	1527	1510	1589	1593	1597	1623	1637	1638	1642	1588	1658	1669	1790	1712	1799	1772	1763	13.1
4. Other Sectors	428	428	434	431	430	443	438	404	395	382	383	376	387	467	476	491	441	478	471	10.2
5. Other	11	11	8	10	11	9	8	7	8	8	8	16	10	11	8	11	8	8	6	-47.4
B. Fugitive Emissions from Fuels	1	1	8	7	8	9	8	8	8	8	8	7	9	8	8	17	16	15	18	2576.8
1. Solid Fuels	1	1	8	7	8	9	8	8	8	8	8	7	8	7	7	8	9	8	10	1411.4
2. Oil and Natural Gas						0	0	0	0	0	0	1	1	0	1	9	7	7	8	NA
<b>2. Industrial Processes</b>	<b>1426</b>	<b>1426</b>	<b>1370</b>	<b>1323</b>	<b>1281</b>	<b>1202</b>	<b>1197</b>	<b>1178</b>	<b>1317</b>	<b>1288</b>	<b>1305</b>	<b>1355</b>	<b>1372</b>	<b>1407</b>	<b>1415</b>	<b>1454</b>	<b>1412</b>	<b>1444</b>	<b>1432</b>	<b>0.4</b>
A. Mineral Products																				NA
B. Chemical Industry																				NA
C. Metal Production																				NA
D. Other Production																				NA
E. Production of Halocarbons and SF <sub>6</sub>	30	30	30	28	39	22	19													NA
F. Consumption of Halocarbons and SF <sub>6</sub>	14	14	14	14	14	17	22	29	38	47	57	69	81	94	108	122	130	140	146	932.8
G. Other	1381	1381	1325	1280	1245	1166	1175	1148	1280	1240	1248	1286	1291	1313	1306	1332	1283	1304	1286	-6.9
<b>3. Solvent and Other Product Use</b>																				NA
<b>4. Agriculture</b>	<b>2250</b>	<b>2250</b>	<b>2236</b>	<b>2196</b>	<b>2198</b>	<b>2232</b>	<b>2258</b>	<b>2294</b>	<b>2307</b>	<b>2229</b>	<b>2203</b>	<b>2128</b>	<b>2216</b>	<b>2218</b>	<b>2265</b>	<b>2215</b>	<b>2181</b>	<b>2088</b>	<b>2000</b>	<b>-11.1</b>

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	%
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
A. Enteric Fermentation	1731	1731	1719	1684	1676	1667	1680	1692	1717	1725	1654	1596	1529	1563	1588	1620	1615	1590	1518	1445	1445	-16.5
B. Manure Management	34	34	36	38	40	41	44	47	50	53	54	55	53	52	51	51	53	55	57	58	58	69.5
C. Rice Cultivation																						NA
D. Agricultural Soils	479	479	477	471	477	483	498	509	521	525	516	547	539	595	571	586	541	533	508	492	492	2.7
E. Prescribed Burning of Savannas	5	5	4	2	2	6	8	7	4	1	3	4	4	3	6	5	4	1	3	3	3	-33.3
F. Field Burning of Agricultural Residues	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	9.3
G. Other																						NA
<b>5. Land Use, Land Use Change and Forestry</b>	<b>3508</b>	<b>3508</b>																			<b>540</b>	<b>-84.6</b>
A. Afforestation and reforestation																						NA
B. Land use change (deforestation)	3508	3508																				-1619
<b>6. Waste</b>	<b>385</b>	<b>385</b>	<b>383</b>	<b>381</b>	<b>381</b>	<b>382</b>	<b>381</b>	<b>377</b>	<b>375</b>	<b>374</b>	<b>373</b>	<b>373</b>	<b>377</b>	<b>375</b>	<b>372</b>	<b>373</b>	<b>311</b>	<b>299</b>	<b>282</b>	<b>286</b>	<b>286</b>	<b>-25.6</b>
A. Solid Waste Disposal on Land	287	287	286	286	288	291	294	296	299	300	301	302	303	303	304	304	246	237	216	220	220	-23.1
B. Waste-water Handling	98	98	97	95	93	91	88	81	77	74	72	70	74	72	69	69	65	62	66	66	66	-32.9
C. Waste Incineration																						NA
D. Other																						NA
<b>7. Other</b>																						NA
NA																						NA
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>11352</b>	<b>11352</b>																			<b>9098</b>	<b>-19.9</b>
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>7844</b>	<b>7844</b>	<b>7886</b>	<b>7154</b>	<b>7254</b>	<b>7334</b>	<b>7318</b>	<b>7339</b>	<b>7374</b>	<b>7528</b>	<b>7558</b>	<b>7603</b>	<b>7605</b>	<b>7724</b>	<b>7754</b>	<b>8216</b>	<b>8409</b>	<b>8236</b>	<b>8447</b>	<b>8558</b>	<b>8558</b>	<b>9.1</b>

Note: The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

## Australian Capital Territory

**Table 11: Australian Capital Territory's CO<sub>2</sub> equivalent emissions 1990 – 2008**

Greenhouse Gas Source and Sink Categories	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%	
<b>Total CO<sub>2</sub>e emissions</b>	<b>1157</b>	<b>1157</b>																		1170	1.1
<b>1. Energy</b>	<b>886</b>	<b>886</b>	<b>897</b>	<b>931</b>	<b>944</b>	<b>974</b>	<b>980</b>	<b>989</b>	<b>1011</b>	<b>927</b>	<b>1065</b>	<b>888</b>	<b>924</b>	<b>879</b>	<b>999</b>	<b>844</b>	<b>956</b>	<b>951</b>	<b>950</b>	<b>950</b>	<b>7.2</b>
A. Fuel Combustion (Sectoral Approach)	886	886	887	906	942	966	972	980	981	911	1050	873	910	864	987	833	944	940	937	937	5.9
1. Energy Industries																					NA
2. Manufacturing Industries and Construction																					NA
3. Transport	881	881	882	901	936	960	967	974	985	906	1044	869	905	859	981	829	939	935	933	933	5.9
4. Other Sectors	5	5	5	5	5	5	5	5	5	5	6	5	5	5	6	5	4	5	5	5	-6.8
5. Other																					NA
B. Fugitive Emissions from Fuels	0	0	10	24	0	3	8	8	9	20	15	15	14	15	12	11	12	11	12	12	NA
1. Solid Fuels																					NA
2. Oil and Natural Gas	10	10	24	0	3	8	8	9	20	16	15	15	14	15	12	11	12	11	12	12	NA
<b>2. Industrial Processes</b>	<b>39</b>	<b>39</b>	<b>38</b>	<b>45</b>	<b>35</b>	<b>40</b>	<b>32</b>	<b>37</b>	<b>41</b>	<b>47</b>	<b>55</b>	<b>63</b>	<b>72</b>	<b>81</b>	<b>90</b>	<b>100</b>	<b>105</b>	<b>114</b>	<b>118</b>	<b>118</b>	<b>200.2</b>
A. Mineral Products																					NA
B. Chemical Industry																					NA
C. Metal Production																					NA
D. Other Production																					NA
E. Production of Halocarbons and SF <sub>6</sub>	19	19	19	18	24	14	12														NA
F. Consumption of Halocarbons and SF <sub>6</sub>	9	9	9	9	9	11	14	19	25	31	38	47	55	64	73	83	88	97	101	101	1077.6
G. Other	12	12	12	11	12	18	18	18	17	16	17	17	17	17	17	17	17	17	17	17	39.9
<b>3. Solvent and Other Product Use</b>																					NA

Greenhouse Gas Source and Sink Categories	Base year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year	
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	%
<b>4. Agriculture</b>	<b>44</b>	<b>44</b>	<b>44</b>	<b>42</b>	<b>41</b>	<b>39</b>	<b>38</b>	<b>37</b>	<b>35</b>	<b>34</b>	<b>32</b>	<b>35</b>	<b>36</b>	<b>37</b>	<b>35</b>	<b>34</b>	<b>33</b>	<b>32</b>	<b>28</b>	<b>25</b>	<b>-43.2</b>	
A. Enteric Fermentation	36	36	36	34	34	32	31	30	29	28	26	29	30	30	28	27	27	26	23	20	20	-44.1
B. Manure Management	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	-8.0
C. Rice Cultivation																						NA
D. Agricultural Soils	8	8	8	7	7	7	6	6	6	6	6	6	6	6	7	6	6	6	5	5	5	-40.8
E. Prescribed Burning of Savannas																						NA
F. Field Burning of Agricultural Residues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	59.1
G. Other																						NA
<b>5. Land Use, Land Use Change and Forestry</b>																						NA
A. Afforestation and reforestation																						NA
B. Land use change (deforestation)																						NA
<b>6. Waste</b>	<b>187</b>	<b>187</b>	<b>191</b>	<b>194</b>	<b>197</b>	<b>190</b>	<b>193</b>	<b>169</b>	<b>165</b>	<b>148</b>	<b>151</b>	<b>146</b>	<b>145</b>	<b>151</b>	<b>127</b>	<b>108</b>	<b>108</b>	<b>152</b>	<b>152</b>	<b>104</b>	<b>-44.6</b>	
A. Solid Waste Disposal on Land	158	158	161	163	166	159	163	139	135	119	121	116	115	121	97	77	78	121	121	72	72	-54.1
B. Waste-water Handling	30	30	30	30	31	31	31	30	30	30	30	30	30	30	30	31	30	30	31	31	31	5.6
C. Waste Incineration																						NA
D. Other																						NA
<b>7. Other</b>																						NA
NA																						NA
<b>Total CO<sub>2</sub> emissions including net CO<sub>2</sub> from LULUCF</b>	<b>1157</b>	<b>1157</b>	<b>1157</b>	<b>1205</b>	<b>1203</b>	<b>1208</b>	<b>1245</b>	<b>1217</b>	<b>1227</b>	<b>1234</b>	<b>1157</b>	<b>1301</b>	<b>1133</b>	<b>1184</b>	<b>1122</b>	<b>1231</b>	<b>1085</b>	<b>1245</b>	<b>1245</b>	<b>1197</b>	<b>1170</b>	<b>1.1</b>
<b>Total CO<sub>2</sub> emissions excluding net CO<sub>2</sub> from LULUCF</b>	<b>1157</b>	<b>1157</b>	<b>1170</b>	<b>1205</b>	<b>1203</b>	<b>1208</b>	<b>1245</b>	<b>1217</b>	<b>1227</b>	<b>1234</b>	<b>1157</b>	<b>1301</b>	<b>1133</b>	<b>1184</b>	<b>1122</b>	<b>1231</b>	<b>1085</b>	<b>1245</b>	<b>1245</b>	<b>1197</b>	<b>1197</b>	<b>3.5</b>

Note: The Kyoto Protocol accounting rules for LULUCF activities differ between the 1990 base year and the commitment period (2008-2012), as such, it is not possible to present a consistent time-series of emissions and removals for these activities.

# Appendix 4 – Land Use Change Emissions

**Table 12 – CO<sub>2</sub> equivalent emission from forest conversion as reported under the UNFCCC inventory 1990 – 2008**

State	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
New South Wales	23,655	24,147	21,487	16,426	14,966	13,844	11,853	10,654	12,687	11,497
Northern Territory	513	533	762	432	409	463	646	625	488	449
Queensland	86,444	71,136	57,645	54,580	56,564	46,552	45,567	46,086	53,082	47,273
South Australia	1,484	895	866	-115	507	369	708	419	411	159
Tasmania	3,478	3,533	2,853	2,663	2,292	2,469	2,454	2,078	2,193	2,197
Victoria	3,969	3,501	4,435	3,458	2,701	2,652	2,112	2,056	2,181	1,907
Western Australia	11,183	9,620	6,938	5,763	4,926	4,221	4,610	4,121	4,483	3,611

State	2000	2001	2002	2003	2004	2005	2006	2007	2008	Change from base to latest reported year
	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)
New South Wales	11,115	7,885	14,072	8,298	9,008	13,542	14,645	17,235	12,721	-46.2%
Northern Territory	354	321	276	296	289	493	580	452	269	-47.5%
Queensland	55,897	53,024	51,914	41,588	43,646	58,118	47,629	45,410	35,694	-58.7%
South Australia	-1,300	-1,605	1,756	488	-1,535	-1,823	2,741	751	405	-72.7%
Tasmania	1,826	2,021	1,784	2,395	2,402	2,701	2,222	1,972	2,221	-36.1%
Victoria	2,072	1,852	2,622	2,561	4,042	4,644	6,114	4,297	4,374	10.2%
Western Australia	2,477	7,351	7,172	2,499	6,136	3,706	6,848	5,320	1,429	-87.2%

Note: Includes emissions from the UNFCCC reporting categories Forest converted to Cropland (excluding soil disturbance emissions) and Forest converted to Grassland. These categories are equivalent to 'land use change' as used to determine the initial assigned amount and are included to provide a time series consistent set of data on emissions from land use change that proxy the estimates for 'deforestation' as reported under the Kyoto Protocol. The 1990 estimates reported here do not exactly match those reported in the State inventories as there have been minor recalculations to these estimates since the initial assigned amount was established.



