

WINE INDUSTRY SECTOR AGREEMENT

Climate Change & Greenhouse Emissions Reduction



Government
of South Australia



Wine Grape Council SA



SOUTH AUSTRALIAN
WINE INDUSTRY
ASSOCIATION
INCORPORATED

Climate Change and the Wine Industry - Overview of Programs and Information, November 2008

1. Introduction

This overview is part of the Information Package developed for the Wine Industry Sector Agreement-Climate Change and Greenhouse Emissions Reduction, a two year agreement with the State Government, the South Australian Wine Industry Association and the Wine Grape Council of SA. Other components of the Information Package are:

- *Information Sheet 1: Why you need to be involved*
- *Information Sheet 2: Wine Industry Sector Agreement Overview*
- *Information Sheet 3: Australian Wine Carbon Calculator*
- *Information Sheet 4: Wine Industry Sector Agreement Participant Commitment*
- *Information Sheet 5: Climate Change Overview*

This overview presents a summary of the existing information relating to climate change and the wine industry in Australia, and provides links to sources for further information. It documents the current environment of climate change within the context of the wine industry and is intended to be a source of further information and references for wine industry members. It was undertaken through a desktop review of relevant websites, and through discussions with stakeholders in the Wine Industry Sector Agreement.

Relevant International and National projects and information are summarised to provide context, with links to relevant websites and further information sources. Details of projects and sources of information on climate change in the wine industry in South Australia are also provided.

2. International Programs and Information

2.1. World Resources Institute and the World Business Council for Sustainable Development Greenhouse Gas Protocol Initiative

The World Resources Institute www.wri.org and the World Business Council for Sustainable Development www.wbcsd.org launched the Greenhouse Gas (GHG) Protocol Initiative in 1998. The GHG Protocol Initiative has its own website www.ghgprotocol.org containing Standards, Guidelines and Tools. The following extract summarises the Initiative:

The Greenhouse Gas Protocol (GHG Protocol) is the most widely used international accounting tool for government and business leaders to understand, quantify, and manage greenhouse gas emissions.

The GHG Protocol, a decade-long partnership between the World Resources Institute and the World Business Council for Sustainable Development, is working with businesses, governments, and environmental groups around the world to build a new generation of credible and effective programs for tackling climate change.

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It provides the accounting framework for nearly every GHG standard and program in the world - from the International Standards Organization to The Climate Registry - as well as hundreds of GHG inventories prepared by individual companies.

The GHG Protocol also offers developing countries an internationally accepted management tool to help their businesses to compete in the global marketplace and their governments to make informed decisions about climate change.¹

2.2. International Wine Carbon Protocol and Calculator

The International Wine Carbon Protocol was an initiative of wine industry bodies in Australia, South Africa, California and New Zealand. The International Wine Carbon Protocol (version 1.2), the Calculator (version 1.2) and the User Guide are based on the GHG Protocol described in 2.1. above, and can be accessed from the Environment Section of the Winemakers' Federation of Australia website <http://www.wfa.org.au/environment.htm>

Since the release of version 1.2 of the Calculator the Australian Government has enacted the *National Greenhouse and Energy Reporting Act 2007* (NGER) and corresponding framework (see section 3.1.1). The International Wine Carbon Calculator is currently being amended by the Winemakers' Federation of Australia and the South Australian Wine Industry Association. This is to develop the Australian Wine Carbon Calculator and User Guide which will align with the NGER framework. It is anticipated that it will be available to industry by March 2009.

2.3. PAS 2050:2008 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services

The British Standards Institution released the Publicly Available Specification (PAS) as a method for measuring the embodied greenhouse gas (GHG) emissions from goods and services in October 2008.

Sponsored by Defra and the Carbon Trust, Publicly Available Specification (PAS) 2050 has been developed in response to broad community and industry desire for a consistent method for assessing the life cycle GHG emissions of goods and services.

PAS 2050 builds on existing methods established through BS EN ISO 14040 and BS EN ISO 14044 by specifying requirements for the assessment of the life cycle GHG emissions of products.

For organizations that supply goods and services, PAS 2050:

- Allows internal assessment of the existing life cycle GHG emissions of goods and services
- Facilitates the evaluation of alternative product configurations, sourcing and manufacturing methods, raw material choices and supplier selection on the basis of the life cycle GHG emissions associated with goods and services
- Provides a benchmark for ongoing programmes aimed at reducing GHG emissions
- Allows for a comparison of goods or services using a common, recognized and standardized approach to life cycle GHG emissions assessment
- Supports reporting on corporate responsibility.

For consumers of goods and services, PAS 2050:

- Provides a common basis from which the results of life cycle GHG emissions assessments can be reported and communicated
- Provides an opportunity for greater consumer understanding of life cycle GHG emissions when making purchasing decisions and using goods and services.²

PAS 2050:2008 and the accompanying Guide can be downloaded at www.bsigroup.com/en/Standards-and-Publications/Industry-Sectors/Energy/PAS-2050

¹ From: <http://www.ghgprotocol.org/> accessed 20 October 2008.

² From: <http://www.bsigroup.com/en/Standards-and-Publications/Industry-Sectors/Energy/PAS-2050/> accessed 31 October 2008.

2.4. Carbon Disclosure Project

The Carbon Disclosure Project (CDP) is an independent not-for-profit organisation which acts as an intermediary between shareholders and corporations on all climate change related issues, providing primary climate change data from the world's largest corporations, to the global market place. The data is obtained from responses to CDP's annual Information Request, sent on behalf of institutional investors and purchasing organisations.³ The data is available on their website <http://www.cdproject.net/index.asp>

2.5. New Zealand – CarboNZero

CarboNZero is a New Zealand based programme looking at greenhouse gas emissions management and reduction. It provides tools for calculating emissions for individuals and businesses, and provides information on reduction strategies, certification and offsets. Information on the programme can be found at www.carbonzero.co.nz. Some wine industry companies that have become certified under the programme include Dry River Wines Ltd, Huia Vineyards Ltd, The New Zealand Wine Company and Wairau River Wines.⁴

3. National Programs and Information

3.1. Department of Climate Change

The Department of Climate Change have responsibility for the key areas surrounding climate change at the Federal level, including the Australian Climate Change Science Program, Adapting to Climate Change, the Carbon Pollution Reduction Scheme, Greenhouse Action in Regional Australia, Greenhouse and Energy Reporting, Greenhouse Friendly, and the 20% Renewable Energy Target.⁵

The most relevant areas to the Wine Industry are summarised here.

3.1.1. Carbon Pollution Reduction Scheme

The Australian Government is establishing a Carbon Pollution Reduction Scheme as part of an effective framework for meeting the climate change challenge.⁶ The Carbon Pollution Reduction Scheme (CPRS) is a 'cap and trade scheme' where an overall cap on carbon pollution is set through issuing permits and entities have the ability to trade, ensuring carbon pollution is reduced at the lowest possible cost. The CPRS is due to commence in 2010.

The White Paper on the CPRS released on 15 December 2008 confirms Australia's commitment to a long-term goal of reducing Australia's greenhouse gas emissions to 60 per cent below 2000 levels by 2050.

It also establishes a medium-term target range to reduce emissions by between 5 and 15 per cent below 2000 levels by 2020.

While the top end of this mid-term range is unconditional, the commitment to a full 15 percent reduction requires both developed and developing countries to make similar commitments that are consistent with long term stabilisation of atmospheric concentrations of greenhouse gases at 450 ppm CO₂-e or lower.⁷

Information about the CPRS and the White Paper can be found at <http://www.climatechange.gov.au/emissionstrading/index.html>

³ From: <http://www.cdproject.net/index.asp> accessed 31 October 2008.

⁴ From: http://www.carbonzero.co.nz/members/organisations_certified.asp accessed 31 October 2008.

⁵ From: <http://www.climatechange.gov.au/about/programs.html> accessed 31 October 2008.

⁶ From: <http://www.climatechange.gov.au/emissionstrading/index.html> accessed 18 November 2008.

⁷ From: <http://www.climatechange.gov.au/whitepaper/summary/index.html> accessed 15 December 2008.

3.1.2. National Greenhouse and Energy Reporting System

The *National Greenhouse and Energy Reporting Act 2007* (the Act) was passed on 29 September 2007 establishing a mandatory reporting system for corporate greenhouse gas emissions and energy production and consumption. The first reporting period under the Act commenced on 1 July 2008.

Key features of the Act are:

- Reporting of greenhouse gas emissions, energy consumption and production by large corporations.
- Public disclosure of corporate level greenhouse gas emissions and energy information.
- Consistent and comparable data available for decision making, in particular, the development of the Carbon Pollution Reduction Scheme.⁸

A range of information and documents on the National Greenhouse and Energy Reporting System can be found on their website www.climatechange.gov.au/reporting/index.html including:

- Legislation
- Overview Fact Sheet
- National Greenhouse and Energy Reporting Guidelines
- National Greenhouse and Energy Technical Guidelines
- National Greenhouse and Energy Reporting System Calculator (used to see if companies meet the thresholds)
- Registration information⁹

3.2. Garnaut Climate Change Review

The Garnaut Climate Change Review was an independent study conducted by Professor Ross Garnaut and commissioned by Australia's Commonwealth, state and territory Governments and completed at the end of September 2008.¹⁰

The Terms of Reference for the review were to report on:

1. The likely effect of human induced climate change on Australia's economy, environment, and water resources in the absence of effective national and international efforts to substantially cut greenhouse gas emissions;
2. The possible ameliorating effects of international policy reform on climate change, and the costs and benefits of various international and Australian policy interventions on Australian economic activity;
3. The role that Australia can play in the development and implementation of effective international policies on climate change; and
4. In the light of 1 to 3, recommend medium to long-term policy options for Australia, and the time path for their implementation which, taking the costs and benefits of domestic and international policies on climate change into account, will produce the best possible outcomes for Australia.¹¹

All the reports and resources in the review, including the final report are available on the website www.garnautreview.org.au

3.3. Australia's Low Pollution Future: The Economics of Climate Change Mitigation

On 30 October 2008, the Treasurer and the Minister for Climate Change and Water released *Australia's Low Pollution Future: The Economics of Climate Change Mitigation*. This report presents the results of the Treasury's economic modelling of the potential economic impacts of reducing emissions over the medium and long term. It spans global, national and sectoral scales, and looks at distributional impacts, such as the implications of emission pricing for the goods and services that households consume.

⁸ From: <http://www.climatechange.gov.au/reporting/about.html> accessed 25 November 2008.

⁹ From: <http://www.climatechange.gov.au/reporting/index.html> accessed 31 October 2008.

¹⁰ From: <http://www.garnautreview.org.au/CA25734E0016A131/pages/about> accessed 18 November 2008.

¹¹ From: [http://www.garnautreview.org.au/CA25734E0016A131/WebObj/GarnautClimateChangeReviewTermsofReference2007/\\$File/Garnaut%20Climate%20Change%20Review%20Terms%20of%20Reference%202007.pdf](http://www.garnautreview.org.au/CA25734E0016A131/WebObj/GarnautClimateChangeReviewTermsofReference2007/$File/Garnaut%20Climate%20Change%20Review%20Terms%20of%20Reference%202007.pdf) accessed 18 November 2008.

The Treasury's modelling demonstrates that early global action is less expensive than later action; that a market-based approach allows robust economic growth into the future even as emissions fall; and that many of Australia's industries will maintain or improve their competitiveness under an international agreement to combat climate change.

The modelling shows that Australia and the world continue to prosper while making the emission cuts required to reduce the risks of dangerous climate change.¹²

3.4. Greenhouse Challenge Plus Program

The former Greenhouse Challenge Plus program was designed to improve energy efficiencies and reduce greenhouse gas emissions, and catered for small and medium businesses. The program is summarised below, and further information, including an Emissions Calculator, Auditing Tools and Progress Reporting can be found on their website

www.environment.gov.au/settlements/challenge/index.html

Greenhouse Challenge Plus enables Australian companies to form working partnerships with the Australian Government to improve energy efficiency and reduce greenhouse gas emissions.

The programme built on the success of Greenhouse Challenge (established in 1995), integrating the Generator Efficiency Standards and the Greenhouse Friendly™ initiative into a single industry programme. The programme is managed by the Department of the Environment, Water, Heritage and the Arts.

Greenhouse Challenge Plus was designed to:

reduce greenhouse gas emissions **PLUS** accelerate the uptake of energy efficiency **PLUS** integrate greenhouse issues into business decision-making **PLUS** provide more consistent reporting of greenhouse gas emissions levels.¹³

3.4.1. Riverina Food Group- Meeting the Greenhouse Challenge

As part of the Greenhouse Challenge initiative, the Riverina Food Group participated in a project involving an emissions inventory, an action plan and an independent audit of production processes and energy efficiency.

Four wine companies; De Bortoli Wines, Casella Estate, Riverina Estate and Beelgara Estate, were involved in that initiative. A report on the initiative was published in 2004 and summarises the actions undertaken, including interviews with managers and employees and is available at <http://www.climatechange.gov.au/agriculture/publications/riverina.html>

3.5. Energy Efficiency Opportunities Program

The Australian Government's Energy Efficiency Opportunities program encourages large energy-using businesses to improve their energy efficiency. It does this by requiring businesses to identify, evaluate and report publicly on cost effective energy savings opportunities.

Responsibility for the Energy Efficiency Opportunities program has recently transferred to the Department of Resources, Energy and Tourism, but information can still be found at www.energyefficiencyopportunities.gov.au/¹⁴

3.6. Department of Agriculture, Fisheries and Forestry – Australia's Farming Future

Australia's Farming Future is the Australian Government's climate change initiative for primary industries. It provides \$130 million over four years to help primary producers adapt and respond to climate change.¹⁵

¹² From: <http://www.treasury.gov.au/lowpollutionfuture/> accessed 30 October 2008.

¹³ From: <http://www.environment.gov.au/settlements/challenge/members/about.html> accessed 31 October 2008.

¹⁴ From: <http://www.energyefficiencyopportunities.gov.au/> accessed 31 October 2008.

The initiative comprises a number of elements: the Climate Change Research Program, FarmReady, Climate Change Adjustment Program, and Farm Business Analysis and Financial Assessments. More information on these programs can be found at <http://www.daff.gov.au/climatechange/australias-farming-future>

3.6.1. National Agriculture and Climate Change Action Plan 2006-2009

The *National Agriculture and Climate Change Action Plan* is an agreement by the Council of Australian Governments (COAG) and the Natural Resource Management Ministerial Council to develop a coordinated framework for climate change policy in agriculture.

The Plan identifies four key areas for climate change management:

- adaptation strategies to build resilience into production systems
- mitigation strategies to reduce or offset greenhouse gas emissions
- research and development strategies to enhance the agricultural and forestry sectors capacity to respond to climate change
- awareness and communication strategies to inform decision making by primary producers and rural communities.

The National Agriculture and Climate Action Plan 2006-2009 can be found at <http://www.daff.gov.au/climatechange/climate>

3.7. Climate Change in Australia

The former Australian Greenhouse Office, through the Australian Climate Change Science Programme, engaged CSIRO and the Bureau of Meteorology to develop climate change projections for Australia. The report, *Climate Change in Australia*, is based upon international climate change research including conclusions from the Intergovernmental Panel on Climate Change (IPCC)'s fourth assessment report. It also builds on a large body of climate research that has been undertaken for the Australian region in recent years.¹⁶

The report is available at www.climatechangeinaustralia.gov.au and the website also summarises Observed Changes in Australia and Australia's Future Climate.

3.8. Commonwealth Scientific and Industrial Research Organisation (CSIRO)

A wealth of information on Climate Change science, including impacts, monitoring, projecting and planning can be found on the CSIRO website, in the Climate Change section www.csiro.au/science/ClimateChange.html

3.8.1. An overview of climate change adaptation in Australian primary industries – impacts, options and priorities

A report undertaken by the CSIRO for the National Climate Change Research Strategy for Primary Industries, *An overview of climate change adaptation in Australian primary industries- impacts options and priorities* was released in 2008. The Overview looks at the major primary industries in Australia, including Viticulture (Chapter 6). The report can be found at <http://www.csiro.au/files/files/plhg.pdf>

3.9. Retooling for Climate Change Grants Program- Ausindustry

The *Re-Tooling for Climate Change* program is one of the three elements of the \$240 million *Clean Business Australia* initiative. The other elements are the *Climate Ready Program* and the *Green Building Fund*.

¹⁵ From <http://www.daff.gov.au/climatechange/australias-farming-future> accessed 18 November 2008.

¹⁶ From: <http://www.climatechangeinaustralia.gov.au/index.php> accessed 23 October 2008

The *Re-Tooling for Climate Change* program (\$75m over 4 years) will help small and medium sized Australian manufacturers reduce their environmental footprint, through projects that improve the energy and/or water efficiency of their production processes. The program provides grants of between \$10,000 and \$500,000, up to a maximum of one third of the cost of each project.

For information about applying for the Re-tooling for Climate Change program, visit AusIndustry's website at www.ausindustry.gov.au¹⁷

3.10. Carbon Offsets Guide Australia

Developed through a partnership between EPA Victoria and Global Sustainability at RMIT, the Carbon Offset Guide is intended to be a resource for businesses, government agencies, NGO organisations and individuals seeking information about offsets.

The aim of the website is to provide an independent directory of Australian carbon offset providers. The website also provides information on carbon offsets and carbon management strategies, and can be found at <http://www.carbonoffsetguide.com.au/>

4. South Australian Programs and Information

4.1. Tackling Climate Change in South Australia

The South Australian government's website www.climatechange.sa.gov.au is an information source on climate change in South Australia, and has links to National and International information. The site contains the State government's strategy on Climate Change- *Tackling Climate Change in South Australia*. The strategy also contains a *Government Action Plan*, the framework to guide the activities of government agencies in implementing the strategy for South Australia to meet its commitment to achieve the Kyoto emissions reduction target within the first commitment period of 2008-2012.

The site also contains information and links on the *Climate Change and Greenhouse Emissions Reduction Act 2007* and the Climate Change Sector Agreements, including the Wine Industry Sector Agreement. Other useful information includes a section Explaining Greenhouse and Climate Change, an Emissions profile for South Australia and latest news and information.¹⁸

4.2. Climate Change in South Australia

In 2003 the CSIRO published *Climate Change in South Australia 2003*, which was updated in 2006 as *Climate change under enhanced greenhouse conditions in South Australia 2006* which provides a basis for understanding potential implications of climate change.

Climate conditions for South Australia and its regions were projected for 2030 and 2070 using future emissions scenarios prepared by the Intergovernmental Panel on Climate Change.

These projections include:

- increase in annual average temperatures (1 - 6° C warmer in the north of the state and 0.6 - 4.4° C in the south, by 2070)
- average annual rainfalls tending toward decreases (projections in the range +20 to -40% by 2070) particularly in agricultural regions of the State
- reduction in winter and spring rain
- increase in frequency of extreme maximum temperatures, while the frequency of extreme minimum temperatures decreases
- increase, by up to 10%, in extreme rainfall events (with heavy rainfall in summer in the north of the state projected to result in a 20% increase in flood frequency)
- increase in the frequency of droughts towards the end of the century.¹⁹

¹⁷ From: <http://www.ausindustry.gov.au/content/level2/index.cfm?objectID=AEB901E5-7CB8-4143-A3BF33B2423F9DA6> accessed 17 September 2008.

¹⁸ From: <http://www.climatechange.sa.gov.au> accessed 24 September 2008.

¹⁹ From: <http://www.climatechange.sa.gov.au/index.php?page=climate-change-in-sa> accessed 18 November 2008.

Further information and the reports are available for download at <http://www.climatechange.sa.gov.au/index.php?page=climate-change-in-sa>

4.3. South Australian Natural Resources Management Plan 2006

The State NRM Plan is a key component of integrated natural resources management arrangements under the *Natural Resources Management Act 2004*. The Plan contains a number of climate change actions in relation to agriculture, particularly under Goal 1: Landscape scale management that maintains healthy natural systems and is adaptive to climate change. The State NRM Plan can be found at http://www.dwlbc.sa.gov.au/nrm/state_nrm_plan/index.html

4.4. A regional Climate Change Decision Framework for Natural Resource Management project

The regional Climate Change Decision Framework for Natural Resources Management project was undertaken during 2006-08 and was co-funded by the Department of Water, Land and Biodiversity Conservation, the Adelaide and Mount Lofty Ranges Natural Resources Management Board and the Department for Climate Change (formerly the Australian Greenhouse Office).

The project worked within the Adelaide and Mount Lofty Ranges (AMLR) NRM region to undertake an assessment of key natural resource management systems that were vulnerable to climate change, and developed and demonstrated methodologies for creating a regional framework for wider application in managing climate change risk and developed adaptation responses.

The Framework:

- Guides decision-making about climate change;
- Raises awareness amongst natural resources managers and other stakeholders;
- Helps identify gaps in climate change knowledge;
- Analyses perceptions of risk from, and identifies opportunities for, adapting to climate change.²⁰

Information on the project can be found at www.dwlbc.sa.gov.au/nrm/projects/rccdf/index.html

4.4.1. McLaren Vale Viticulture Project

Several case studies were undertaken as part of the regional Climate Change Decision Framework for Natural Resource Management project, one of which looked at the McLaren Vale viticulture and Fleurieu peninsula olive culture industries. The report on this can be found at www.dwlbc.sa.gov.au/nrm/projects/rccdf/reports.html²¹

4.5. A Guide to Climate Change and Adaptation in Agriculture in South Australia

In 2007, the South Australian Research and Development Institute, Primary Industries and Resources SA and Rural Solutions SA released *A Guide to Climate Change and Adaptation in Agriculture in South Australia*. This contains some useful information on greenhouse emissions and global warming (a broad overview), climate change trends, predictions, mitigation and adaptation in agriculture and strategies for reducing greenhouse gas emissions. The guide can be found at www.pir.sa.gov.au/data/assets/pdf_file/0003/43464/Guide_to_Climate_Change.pdf

4.6. Climate Change and Viticulture – Informing the decision making at a regional level

This project is currently being undertaken by the South Australian Wine Industry Association and the South Australian Research and Development Institute. Based on trials in the Riverland and Clare, it is producing a kit for grapegrowers and winemakers to assess how climate change may impact on their region. The kit will be available to the wine industry early in 2009.

²⁰ From: <http://www.dwlbc.sa.gov.au/nrm/projects/rccdf/index.html> accessed 31 October 2008.

²¹ From: <http://www.dwlbc.sa.gov.au/nrm/projects/rccdf/index.html> accessed 24 September 2008.

4.7. Regional Programs

Climate change is being addressed in various ways across the wine regions of South Australia. Two regions in particular have ongoing programs.

4.7.1. McLaren Vale

The McLaren Vale Grape, Wine and Tourism Association (MVGWTA) developed an Environmental Management Plan for the McLaren Vale Wine Industry for the 2007- 2012 period. Under three key themes, the plan sets out Objectives, Goals and an Implementation Plan. Within the 86 actions in the Implementation Plan, several focus on greenhouse gas emissions reduction, carbon capture and storage and other climate change related actions.²²

The MVGWTA have been actively undertaking these actions, including holding information sessions for members, and measuring, reducing and offsetting the Association's own carbon emissions to become Carbon Neutral.²³

4.7.2. Langhorne Creek

The Angas Bremer Water Management Committee and Langhorne Creek Wine Industry Council, including the Langhorne Creek Wine Grapegrowers' Association have been working with the Langhorne Creek wine industry for many years on environmental initiatives.

As part of their Environmental Management Program, they recognised the need to undertake a risk assessment on climate change in the region and have developed best practice guidelines released in August 2008 'Climate Change Best Management Practice Guidelines for Wine Grape Growing in Langhorne Creek'. This includes a series of documents on climate change policies, practices and worksheets for growers and wineries in the region.²⁴

²² McLaren Vale Grape, Wine and Tourism Association, *Environmental Management Plan for the McLaren Vale Wine Industry 2007-2012*

²³ Daily Wine News, 'McLaren Vale Grape, Wine and Tourism a carbon neutral leader' 10 October 2008.

²⁴ Langhorne Creek Wine Industry Council (2008) *Climate Change Best Management Practice Guidelines for Wine Grape Growing in Langhorne Creek*.