



# Victorian Local Government Greenhouse and Climate Change

## Case Studies Report

2007

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# Message from the Municipal Association of Victoria



Climate change is now a reality. The effects of a changing climate will bring about a range of challenges to Victoria's society, economy and environment. Local government undertakes a range of important functions in this area including that of community leader and educator, priority setter, program coordinator and advocate. These roles extend to both reducing the amount of greenhouse gases entering the atmosphere and to helping local communities adapt to a changing climate.

The *Victorian Local Government Greenhouse and Climate Change Case Studies Report* records local government activity in greenhouse mitigation and climate change adaptation. It details the sector's level of commitment to greenhouse and climate change issues, as demonstrated over the past three years. Over half of Victoria's councils consider the issue a high priority for their organisation and have strategies in place to address this.

While active participation by the sector is increasing, it must also be noted that there are differing levels of awareness and capacity within local government to undertake greenhouse and climate change activities. This report provides an overview of the current barriers to local government involvement across the state and proposes a number of recommendations to overcome them. In particular access to current information applicable at a local and regional level, resource limitations and a need for leadership at the state and national level have been identified as challenges requiring action.

The report contains 11 case studies to share knowledge and expertise within the sector, by demonstrating innovation and best practice greenhouse gas abatement and climate change adaptation activities undertaken by Victorian councils. It is hoped the valuable information in this report will encourage information sharing not only between councils but with other environment managers across the state.

It is heartening to see how willing councils are at sharing experiences with each other, state and federal agencies and the community. On behalf of the MAV, I would like to thank our membership for their active participation in this study. Without the involvement of councils it would not be possible to present such a detailed account of the level of local government activity and innovative programs in greenhouse mitigation and climate change adaptation across the state.

The MAV considers this report an important reference for discussion among stakeholders and for development of further opportunities for improved greenhouse gas abatement and climate change adaptation programs to benefit all Victorians. By raising the profile of the important work being undertaken by Victorian local government, this report can be the catalyst to build innovative partnerships between councils and other environment managers.

Rob Spence  
CHIEF EXECUTIVE OFFICER



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# 1.0 Executive Summary



Across Victoria local government is actively involved in greenhouse and climate change issues as a community leader and educator, priority setter, program coordinator and advocate. However, there are varying levels of awareness and capacity within local government to undertake these activities. A lack of opportunities for information sharing between municipalities has been identified as one barrier to improvement in greenhouse gas abatement and climate change adaptation performance across the state.

The Municipal Association of Victoria (MAV) has undertaken this study with funding from the Victorian Government, to revise and record change in local government circumstances and approaches to greenhouse and climate change over the past three years, and to increase information sharing opportunities across the sector. The project has a statewide focus, detailing local government activities in greenhouse and climate change management across metropolitan, regional and rural areas.

This study has found there is growing consideration of greenhouse and climate change as a high priority issue across Victorian local government with a marked increase in the number of councils adopting strategies and programs to address this.

Over the past three years the number of councils that consider greenhouse and energy management a high priority issue for their organisation has grown from 34% in 2002 to 54% in 2005. This issue is now among the top ten high priority environment issues of councils across the state. Likewise the number of councils with a greenhouse strategy has increased by 38%, from 16% in 2002 to 54% in 2005, and the number of councils participating in ICLEI's Cities for Climate Protection (CCP) program has more than doubled from 2002 to 2006 rising from 30% in 2002 to 82% four years later.

While active participation by the sector is increasing, it must also be noted that there are differing levels of awareness and capacity within local government to undertake greenhouse and climate change activities. This capacity and awareness is determined by various factors, which are influenced by, but not limited to, the economic and technical resources at their disposal, as well as council and community attitudes to the problem.

In addition to detailing activity levels of local government, this report presents a range of case studies to help raise the awareness and in turn opportunities for Victorian local government to participate in greenhouse and climate change activities. The case studies focus on a range of initiatives from the development and delivery of strategies and plans to guide council actions in mitigation and adaptation, through to programs for the community and partnership approaches. The case studies focus on processes for successful project development and delivery, exploring issues such as drivers, risk management, resourcing, implementation, monitoring and review and future directions. Importantly the case studies also outline a number of key steps to guide program development in other municipalities.

It is anticipated this report will encourage information sharing not only between councils but with other key stakeholders across the state. This better places the sector to undertake greenhouse gas abatement and climate change adaptation in line with the overarching strategies, and assist with the development of effective management programs and policies in the future.

## 2.0 Introduction



Climate change, due to the enhanced greenhouse effect, is one of the most serious global challenges facing the world today (DSE 2005). All countries and all communities are vulnerable to climate change and its related social, environmental and economic impacts.

The Intergovernmental Panel on Climate Change (IPCC) established by the United Nations in 1988 concluded in the Fourth Assessment Report (2007) that global warming has accelerated in recent decades, and continues to accelerate. Evidence attributes warming over the last 50 years with human activity, and this is now generally accepted.

The 2007 report also noted that even if atmospheric concentrations of carbon dioxide are stabilised within the next century, temperatures will continue to increase for several centuries, and the sea level will continue to rise for several millennia. Subsequently, climate change will adversely affect water resources, agriculture, forestry, fisheries, ecological systems, human health and settlements in many parts of the world.

The projected climate change for Australia will challenge the social, environmental and economic framework of society. The expected impact will include: an increase in annual national average temperatures; more heat waves and fewer frosts; a decrease in annual average rainfall in south east Australia; an increase in severe weather events such as storms and cyclones, droughts and high bushfire propensity days; a general reduction in soil moisture; and projected rises in average sea levels contributing to greater impact from storm surges (AGO, 2005 and Suppiah *et al* 2002). However, despite our knowledge of the impacts of climate change and some efforts across all levels of government, Australia's greenhouse gas emissions continue to grow.

Local government plays an important role in addressing climate change and will continue to

do so. The sector is achieving greenhouse gas mitigation in council operations and through the delivery of community greenhouse abatement programs. In addition, councils will continue to develop and implement adaptation strategies required to reduce vulnerability to future projected impacts of climate change.

The MAV, as the peak body for local government in Victoria, with support from the Victorian Government, has undertaken this study to establish an understanding of the drivers, constraints and institutional arrangements influencing local government participation in greenhouse and climate change programs.

This work has shown that councils have differing levels of awareness and capacity to contribute to effective greenhouse and climate change management. This capacity is influenced by, but not limited to, the economic and technical resources at the disposal of each council, as well as council and community attitudes to the problem.

This report provides current figures on local government greenhouse and climate change activity, as well as 11 case studies demonstrating innovation and best practice greenhouse and climate change actions by Victorian local government. The case studies focus on a range of initiatives from the development and delivery of strategies and plans to guide council actions, through to incentive programs for the community and partnership approaches. The case studies detail processes for effective project development and delivery, exploring issues such as drivers, risk management, resourcing, implementation, monitoring and review and future directions. Importantly the case studies also outline a number of steps to guide program development in other municipalities.

## 3.0 Climate Change Implications for Victoria



Changes to Australia's climate are already occurring over and above natural variability (i.e. long-term spatial and temporal changes in rainfall and temperature patterns) and these changes are expected to have an impact on Australia's economy, society and environment (AGO, 2005).

The Third Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2001) concluded that Australia is one of the most vulnerable of all industrialised countries to the effects of climate change. This reflects Australia's already variable climate, poor soils, vulnerable ecosystems and high proportion of population living in coastal areas.

CSIRO scientists are confident that Australia is likely to see further increases in temperatures with more heat waves and fewer frosts. Changing rainfall patterns are also projected, including reductions in water availability in the southern parts of Australia and increases in much of the tropical north. Drought, bushfires, floods and storms may become more intense and possibly more frequent. Natural resource management and biodiversity conservation are likely to be strongly affected by climate change, as change is likely to add to the existing substantial pressures on these areas.

Victoria will not be immune to the effects of climate change. The expected change in Victoria is not consistent across the state and includes the following:

- Annual average temperatures over northern and eastern Victoria are projected to be between 0.3 °C and 1.6°C higher by 2030 and between 0.8 °C and 5.0 °C higher by 2070, relative to 1990. In the south of the state, the ranges are 0.3 °C – 1.6 °C by 2030 and 0.6 °C – 4.0 °C by 2070. The warming is expected to be greatest in summer and least in winter, with models indicating that future increases in daily maximum and minimum temperatures will be similar to the changes in average temperature.
- Extreme maximum temperatures will increase in frequency and extreme minimum temperatures will decrease. By 2070 with the lowest projected warming, it is expected there will be between a 15% - 40% increase in hot summer days in many Victorian centres. This scenario increases to 50% - 250% with the highest projected warming. Frost days are expected to decrease in frequency by 33% – 75% for the lowest projected warming by 2070 and most of Victoria will become frost free under the highest projected warming.
- It is likely Victoria will receive less rainfall. By 2030, projected changes, relative to the climate of 1961-1990, range from a decrease of 10% to an increase of 2% across most of the south and east and from -15% to +2% in other areas, except for the far east of the state and southwest Gippsland, which may experience a change of -10% to +10%. For 2070, projected changes are -25% to +10% across most of the south and east and -40% to +10% in other areas, except for the far east and southwest Gippsland, which may experience a change of -25% to +25%. Of the four seasons, spring shows the greatest possible decreases in rainfall, with changes by 2070 of -40% to +10% in the far east of Victoria and -55% to -2% almost everywhere else. The changes for summer include the greatest possible increases in rainfall, with changes by 2070 of -40% to +25% across much of the south and -40% to +40% across most of the north.
- More dry spells are expected across Victoria where average rainfall decreases. In areas where average rainfall increases are expected, there will be more extremely wet years. It is generally accepted that there will be increased dry conditions during spring.
- The warmer conditions will increase

evaporation rates. Combined with a decrease in average rainfall, most Victorian regions will experience a decrease in available moisture.

- Extreme daily rainfall events may become heavier, even in areas where average rainfall is projected to decline.
- The climate scenarios show higher fire danger particularly in spring, summer and autumn.
- There is significant uncertainty about future changes in extreme wind events over Victoria. Projected changes in simulated extreme daily wind-speed are based on the windiest 1% of days. Relative to the climate of 1990, changes are likely to be between -3% and +6% by around 2030 and between -12% and +15% by around 2070.
- Annual average humidity is likely to change by -3% to +1% by around 2030 and -11% to +3% by around 2070, relative to the climate of 1990. Spring shows the greatest possible decreases and autumn shows the most widespread increases. In general coastal areas are more likely to experience increases in humidity than inland areas in any season.
- There is likely to be an increase in the annual average amount of solar radiation reaching the ground, due to a reduction in cloud cover.

(Suppiah *et al*, 2002 and Hennessy *et al* 2005)

## 4.0 Roles and Responsibilities

This section outlines the legislative and policy context for climate change action at the international, national, state and local level. It also details roles and responsibilities of various organisations for greenhouse gas mitigation and climate change adaptation, thereby setting the framework for local government activity.

### 4.1 Legislation and Policy Context

#### 4.1.1 International

##### United Nations Framework Convention on Climate Change

In June 1992, Australia along with more than 150 other nations signed the Framework Convention on Climate Change, which came into force in March 1994. The Convention sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognises that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. The Convention enjoys near universal membership, having been ratified by 189 countries.

Under the Convention, governments:

- gather and share information on greenhouse gas emissions, national policies and best practices;
- launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and
- cooperate in preparing for adaptation to the affects of climate change.

The objective of the Convention is to stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human interference with the climate system. The Convention aims to achieve stability within a timeframe that will allow ecosystems to adapt naturally to climate change, to ensure food production is not threatened and economic development is able to proceed in a sustainable manner.

Representatives meet regularly at the annual Conference of the Parties to review implementation

of the Convention and continue talks on how best to tackle climate change.

Further information is available at:

<http://unfccc.int/2860.php>

##### The Kyoto Protocol

The Framework Convention on Climate Change was strengthened by the Kyoto Protocol, agreed in December 1997. The Protocol, an international and legally binding agreement to reduce greenhouse gases emissions world wide, came into force in February 2005. It represents a significant advance in international efforts to combat global warming. For the first time, developed countries have agreed to consider legally binding commitments to reduce their greenhouse gas emissions and address the threat of climate change.

As a whole, developed countries are committed to reducing their greenhouse gas emissions by at least 5% in the period 2008 to 2012 from 1990 levels. Under the Kyoto Protocol, countries must measure and report on their greenhouse gas emissions and describe how they are meeting their obligations. Recognising that developed countries have different economic circumstances and differing capacities to make emissions reductions, the Protocol's greenhouse gas emissions targets vary.

*\* Note: Australia is a signatory to the Kyoto Protocol, but to date has not ratified it.*

Further information is available at:

[http://unfccc.int/essential\\_background/kyoto\\_protocol/items/1678.php](http://unfccc.int/essential_background/kyoto_protocol/items/1678.php)

#### 4.1.2 National

##### National Greenhouse Strategy

The National Greenhouse Strategy (AGO 1998) was a major policy initiative of the Commonwealth, state and territory governments.

The Strategy provided a framework for Australia's greenhouse response and is the primary mechanism through which international commitments would be met. It set out a range of actions to be implemented by governments, industry and the community.

The Strategy addressed three key topics:

- improving awareness and understanding of greenhouse issues;
- limiting the growth of greenhouse emissions and enhancing Australia's greenhouse sinks; and
- developing ways of coping with likely climatic changes.

In 2004 the Australian Government announced a new climate change strategy to:

- enhance international engagement to work towards an effective global response to climate change;
- focus domestic action to meet Australia's internationally agreed greenhouse emissions target in the short term, and in the longer term deliver a lower emissions signature while maintaining a strong economy; and
- prepare Australia for the unavoidable consequences of climate change.

The strategy incorporates business and community partnerships, strategic investment, government regulation and market measures. It includes measures announced in the May 2004 Federal Budget and the June 2004 energy white paper, *Securing Australia's Energy Future*, and brings the total Australian Government investment in climate change response to almost \$2 billion.

Further information is available at:

<http://www.greenhouse.gov.au/>

#### 4.1.3 Victoria

##### *Growing Victoria Together*

Growing Victoria Together is the Government's vision for Victoria now and into the future. It expresses a balanced approach to achieving progress and increasing the common good – equally valuing economic, social and environmental goals.

Growing Victoria Together notes that:

"Our most critical natural resource issues are

greenhouse gas emissions, water and waste. To allow our population to grow whilst avoiding placing serious stresses on the environment, each of us needs to use less water and energy and cut down on creating non-recyclable waste. Our approach to reducing greenhouse gas emissions will focus attention on the need to move to a less greenhouse gas intensive economy over time. This is critical if Victoria is to play its part in national and global efforts to address the threat of climate change over the coming century."

Growing Victoria Together includes a measure to reduce greenhouse gas emissions from the production and use of energy. It is proposed to use the following two indicators to report on this measure:

- total greenhouse gas emissions; and
- stationary energy greenhouse gas emissions per \$million Gross State Product (GSP).

Further information is available at:

<http://www.growingvictoriatogether.vic.gov.au>

##### *Victorian Greenhouse Strategy and Action Plan Update*

The Victorian Greenhouse Strategy (VGS) was released in 2002 and details the actions the Victorian Government is taking in response to climate change. The goals of the VGS are to:

- build awareness and understanding of greenhouse issues;
- limit Victoria's greenhouse gas emissions and enhance greenhouse sinks;
- position Victoria to prosper in a future carbon constrained economy – including by creating an environment in which Victorian industry can take advantage of business opportunities in greenhouse gas mitigation; and
- develop a greater understanding of climate change impacts and, where appropriate, initiate adaptation actions relevant to Victoria.

Areas of action in the Strategy included:

- support for the efforts of local government;
- provision of information for the community;
- support for greenhouse action in regional Victoria; and
- government leadership for reducing greenhouse gas emissions from its own operations and the integration of greenhouse

issues into key government decision-making processes.

The Victorian Government's responses to climate change have continued to evolve with significant steps being taken to develop policy with respect to the energy sector and adaptation to climate change. There have also been major developments in the broader policy settings established by the Government with the release of *Growing Victoria Together* (see previous page).

The *Victorian Greenhouse Strategy Action Plan Update* acknowledges these recent developments in state, national and international policy settings; builds on the actions and commitments initiated by the VGS (2002); and responds to the need to advance action on both emissions abatement and adaptation.

The Action Plan Update includes a discussion of the strategic setting for the Government's greenhouse response. This provides a snapshot of the current context and high level drivers for action by Victoria, and the broad policy commitments and overarching directions being pursued by the Government on climate change.

The Action Plan Update also describes the wide range of actions being pursued by the Government both to reduce greenhouse gas emissions and to facilitate adaptive responses to the impacts of climate change. In doing so, a number of key Government policy and program documents which contribute to the Victorian Government's overall greenhouse response are identified, together with a number of specific policies and programs across six activity areas that will advance Victoria's response to climate change.

Further information is available at:  
<http://www.greenhouse.vic.gov.au>

#### [Our Environment, Our Future - Victoria's Environmental Sustainability Framework](#)

In April 2005 the Victorian Government launched Victoria's Environmental Sustainability Framework, which will be a key driver of the Government's commitment to make Victoria a world leader in environmental sustainability. It provides direction for government, business and the community on building environmental considerations into the way we work and live.

The Framework:

- outlines the key environmental challenges Victoria faces;
- explains what 'environmental sustainability' is and why it is important;
- identifies the strategic directions we must pursue to become environmentally sustainable;
- sets out objectives to be achieved and interim targets for measuring progress towards the objectives; and
- identifies some important steps for putting the Framework into action.

One of the major challenges covered in the framework is climate change.

The Sustainability Framework was followed by the *Our Environment, Our Future - Sustainability Action Statement 2006*, a \$200 million package of 150 priority sustainability initiatives to secure a sustainable state for future generations of Victorians.

Responding to the challenge of climate change is recognised as one of five areas for immediate action. Initiatives outlined in the Action Statement fall under three headings

Action 1: clean greenhouse friendly energy  
Key initiatives include:

- Victorian renewable energy target
- Support for renewable energy
- Support for national emissions trading
- Greenhouse reporting
- Cleaner coal
- Improving existing generators
- Green communities

Action 2: improving our energy efficiency  
Key initiatives include:

- Help for large resource users
- Smart metering
- Smarter energy pricing
- Greener appliances
- Energy smart business
- Better billing
- Growing the energy efficiency industry
- Cities for Climate Protection

Action 3: adapting to the impacts of climate change

Key initiatives include:

- Adapting for Victoria's future
- Research centre for climate change adaptation
- Local action
- Human health and climate change

Further information is available at:

<http://www.dse.vic.gov.au/ourenvironment-ourfuture/>

Other key policies and programs that contribute to the Victorian Government's overall greenhouse response include:

- *Greenhouse Challenge for Energy* – which includes:
  - The *Renewable Energy Action Plan* (REAP) launched in August 2006. The plan will accelerate the development of renewable energy in the state, while helping Victoria to lower greenhouse gas emissions.
  - The *Energy Efficiency Action Plan* which takes energy efficiency in Victoria to the next level. It builds on the Government's achievements to date, including the introduction of 5-star standards for all new homes and energy efficiency requirements for EPA licensees.
  - The *Energy Technology Innovation Strategy* (ETIS) has been agreed and commenced implementation to drive improvements in energy efficiency and facilitate investment in sustainable energy supply sources to support the continuing competitiveness of Victoria's industrial base and contain greenhouse gas emissions from the supply and use of energy in order to develop over time a sustainable energy sector.
- Sustainable energy programs – delivered through the Government agency, Sustainability Victoria, to accelerate sustainable energy outcomes across the economy.
- Linking Melbourne: Metropolitan Transport Plan – a comprehensive 10-year plan for the management and development of

Melbourne's transport system.

- Melbourne 2030 – the keystone planning strategy for managing growth and change across metropolitan Melbourne and the surrounding region over the next 30 years.
- Towards Zero Waste Strategy – a 10-year strategy for driving improvement in solid waste management and more efficient use of resources.

#### 4.2 The role of local government in responding to climate change

Responding to climate change requires the mitigation and management of greenhouse gas emissions. Additionally, it requires strategies to adapt existing practices to climate change scenarios to reduce and manage the risk of projected impacts.

Victorian local government in partnership with, amongst others, the International Council for Local Environmental Initiatives (ICLEI) through the Cities for Climate Protection™ program is a leader in reducing greenhouse gas emissions, both in council operations and as a community leader and educator. Drivers for local government to reduce greenhouse gas emissions include the significant impacts that climate change scenarios may have on communities and council operations. Although the challenge of adapting to climate change has not received the same level of attention by the sector, it is now an emerging area of interest (see Chapter 5).

##### Climate change issues for local government

The direct and indirect affects of climate change on local government in Victoria will vary between councils according to geography, natural environment, demographics and socio-economics. Table 1 (over page) provides a summary of possible impacts that climate change presents to local government assets, services, operations and their communities. The information has been compiled from sources including AGO (2006).

Table 1. Summary of Potential Climate Change Impacts for Local Government

Assets / Service Delivery / Operations	Possible Climate Change Impacts
Infrastructure and Property Services	
Road/pavement construction and maintenance	<ul style="list-style-type: none"> <li>• Changes in rates of road and pavement deterioration with increased rates in wetter areas and potential slower rates in areas where rainfall is expected to decrease.</li> <li>• Increase in road subsidence and surface damage.</li> <li>• Increase in maintenance and repair costs.</li> <li>• Changes in frequency of interruption of road traffic from extreme weather events.</li> </ul>
Stormwater/drainage	<ul style="list-style-type: none"> <li>• More intense rainfall resulting in more inflow into drainage networks with infrastructure capacity exceeded.</li> <li>• Breaching of existing flood defences.</li> <li>• Drainage capacity exceeded due to sea level rise and storm surge.</li> <li>• Changes in mean and peak stream and river flows.</li> </ul>
Buildings	<ul style="list-style-type: none"> <li>• Changes in building heating and cooling costs. Cost changes can be either negative or positive.</li> <li>• Changes in frequency and intensity of wind, rain, hail, floods, wildfire and storm events leading to increased damage to property.</li> <li>• Higher rates of building deterioration and an increase in associated maintenance costs.</li> </ul>
Coastal assets and infrastructure	<ul style="list-style-type: none"> <li>• Increased coastal erosion.</li> <li>• Loss of coastal public open space.</li> <li>• Increased frequency of inundation (and permanent inundation in some cases) of coastal infrastructure and utilities including water, sewerage, gas, telecommunications, electricity and transportation.</li> <li>• Damage and disturbance to council managed coastal assets including marinas, boat ramps, jetties, walking tracks and coastal reserves.</li> <li>• Increased erosion and breaches of seawalls and damage to other coastal defences.</li> <li>• Increased repair, maintenance and protection costs of coastal assets.</li> </ul>
Tourism and Recreation	
Tourism and recreation planning	<ul style="list-style-type: none"> <li>• Impacts on coastal and alpine regions may have implications on tourism, recreational planning, infrastructure and economic viability.</li> </ul>
Maintenance of recreational facilities/areas	<ul style="list-style-type: none"> <li>• Reduced water quantity resulting in less irrigation of open space and sporting grounds.</li> <li>• Limited water for swimming pools.</li> <li>• Beach closures due to <i>E.coli</i> levels after storms.</li> <li>• Loss of trees, gardens and playing fields due to moisture stress.</li> <li>• Increased repair and maintenance costs.</li> </ul>

Table 1. Summary of Potential Climate Change Impacts for Local Government (cont)

Assets / Service Delivery / Operations	Possible Climate Change Impacts
Health services	
Community/workplace health	<ul style="list-style-type: none"> <li>● Increase in geographical range, seasonality and epidemic outbreaks of vector-borne diseases, e.g. occurrence of Ross River Fever.</li> <li>● Increase incidence of food and water borne disease as a result of higher temperatures.</li> <li>● Risk of cryptosporidium infections potentially increasing from open water swimming during summer.</li> <li>● Health impacts due to exposure to extreme weather such as heatwaves.</li> <li>● Intense rainfall events transporting contaminants into waterways and drinking water supplies.</li> <li>● Increased pressure on potable water supplies.</li> <li>● An increased risk of injuries or fatalities due to increased storm surges and flooding.</li> <li>● Retrofitting existing community facilities to manage higher temperatures.</li> </ul>
Planning and Development Approvals	
Strategic and statutory planning, policy and development	<ul style="list-style-type: none"> <li>● Inappropriate location of urban expansion in areas vulnerable to climate change impacts and risk of future liability.</li> <li>● Increased uncertainty in long-term land-use planning and infrastructure design.</li> <li>● Retrofitting of infrastructure.</li> <li>● Risk of loss or damage of private and public assets.</li> <li>● Increased insurance costs.</li> <li>● Early retirement of capital infrastructure.</li> <li>● Changes to building regulations and land use zoning.</li> </ul>
Natural Resource Management	
Coastal management	<ul style="list-style-type: none"> <li>● Increased coastal erosion and inundation due to sea level rise and storm surges.</li> <li>● Loss of private property and community assets.</li> <li>● Loss of beach width.</li> <li>● Changes to wetlands and estuarine ecosystems due to sea level rise, shoreline erosion and saltwater intrusion.</li> </ul>
Pest plant and animal management	<ul style="list-style-type: none"> <li>● Changes in distribution and populations of invasive species.</li> <li>● Increase in management costs to meet legislated pest plant and animal responsibilities.</li> <li>● Increase in the need for community education initiatives.</li> </ul>

Table 1. Summary of Potential Climate Change Impacts for Local Government (cont)

Assets / Service Delivery / Operations	Possible Climate Change Impacts
Natural Resource management (cont.)	
Biodiversity	<ul style="list-style-type: none"> <li>• Shifts in distributions of plant and animal species.</li> <li>• Changes in species composition.</li> <li>• Increased risk of population and species extinctions.</li> <li>• Reduced ecosystem resilience to climate related stress.</li> <li>• Increased pressure on sand dune systems and ecosystems.</li> <li>• Changes to mangrove habitats due to salt water intrusion.</li> <li>• Reduced extent and quality of native vegetation.</li> <li>• Increases in ecological disturbances.</li> </ul>
Water quantity and quality	<ul style="list-style-type: none"> <li>• Reduced annual rainfall.</li> <li>• Reduced water quality due to flash-flooding, erosion and failure of sewerage and septic systems.</li> <li>• Increased water demand.</li> </ul>
Economic	
Financial sustainability	<ul style="list-style-type: none"> <li>• Reduced rate base in some areas due to impacts on rural enterprises (drought, flood and reduced land productivity).</li> <li>• Economic decline in rural Victoria.</li> <li>• An increased rate base in more temperate zones due to increased migration.</li> </ul>
Emergency Services	
Emergency Management	<ul style="list-style-type: none"> <li>• Review of emergency response and recovery plans for fire, flood and coastal inundation (e.g. Municipal Fire Prevention Plans).</li> <li>• Increased resources for emergency coordination services.</li> <li>• Repair costs.</li> <li>• Introduction of heat wave strategies.</li> </ul>
Population	
Migration	<ul style="list-style-type: none"> <li>• Rural decline due to climate impact on the rural sector.</li> <li>• Increased population pressure on temperate zones.</li> <li>• Migration to and from coastal and alpine areas.</li> </ul>
Waste Management	
Kerbside collection	<ul style="list-style-type: none"> <li>• Temperature rise may increase rubbish decay rates which may impact on kerbside collection frequency.</li> </ul>

### 4.3 Roles and Responsibilities of Other Organisations

#### Intergovernmental Panel on Climate Change

The IPCC was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP), to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential effects and options for adaptation and mitigation. It is open to all members of the United Nations and the WMO.

The IPCC is organised into three working groups. These groups concentrate on:

- Group 1 - the science of climate change;
- Group 2 - impacts, adaptation and vulnerability; and
- Group 3 - mitigation of climate change.

The IPCC published a first assessment report in 1990, a supplementary report in 1992, a second assessment report (SAR) in 1995, a third assessment report (TAR) in 2001 and a fourth assessment report (AR4) in 2007. Each of the assessment reports is in three volumes from each of the working groups.

As well as the assessment reports (1990, 1995, 2001 and 2007), the IPCC produces technical papers and develops methodologies, such as for national greenhouse gas inventories.

Further information is available at:  
<http://www.ipcc.ch/>

#### National and State Governments and Agencies

All levels of government have an important role to play in implementing greenhouse gas reduction and climate change adaptation strategies in partnership with the private sector and community. Key areas of government interest include the maintenance of public infrastructure including transport, telecommunications and energy supply, ensuring the health and safety of citizens and fostering appropriate land use development and planning (AGO, 2005).

#### The Department of Environment and Heritage and the Australian Greenhouse Office

The Australian Government sets the national direction for Australia's greenhouse and climate change activities. It is also signatory to international treaties and represents Australia at

international events and meetings.

The Australian Greenhouse Office, part of the Department of the Environment and Water Resources, delivers the majority of programs under the Australian Government's climate change strategy. Established in 1997 as an agency to provide a whole-of-government approach to greenhouse matters, and to deliver the Australian Government's \$180 million climate change package, 'Safeguarding the Future: Australia's response to climate change'. The AGO also coordinated the Commonwealth's contribution to the 1998 National Greenhouse Strategy and is responsible for delivery of grants to address greenhouse and climate change issues on behalf of the Australian Government.

Further information is available at:  
<http://www.greenhouse.gov.au>

#### CSIRO Marine and Atmospheric Research

The CSIRO Marine and Atmospheric Research provides scientific advice and solutions on issues involving the atmospheric environment, the climate system, coastal management, sustainable marine resources and industry. Scientists at CSIRO Marine and Atmospheric Research are monitoring the changing composition of the air, identifying and quantifying sources of greenhouse gases and establishing processes by which these gases are removed from the air. Divisional scientists are determining the likely global and Australian impacts of rising concentrations of greenhouse gases.

The work of the CSIRO is directed towards meeting the needs of government, industry and the community. CSIRO's climate change research is highly valued in the policy-making arena. As international discussions move forward, CSIRO and similar research organisations will retain an important role in informing policy makers of vital details.

Further information is available at:  
<http://www.dar.csiro.au/information/climatechange.html>  
and  
<http://www.cmar.csiro.au>

### Cooperative Research Centre for Greenhouse Accounting

The Cooperative Research Centre (CRC) for Greenhouse Accounting officially closed in June 2006. The CRC provided national leadership in greenhouse accounting research, promoted its research findings for the economic, environmental and social benefit of Australia and the world. Its research supported the development of Australian and global greenhouse policy and sustainable land-management practices and agricultural systems.

The CRC for Greenhouse Accounting was a collaboration of scientists across Australia leading research in:

- measuring, forecasting and accounting for carbon pools in soil, biomass, and wood products;
- plant interactions with elevated concentrations of carbon dioxide, climate change, nutrient availability, and stress;
- risks to the carbon cycle posed by climate variability and change;
- ecological and hydrological impacts of climate change; and
- systems and practices to minimise greenhouse gas emissions in agriculture.

The CRC's research covered every state and mainland territory of Australia. With more than 100 scientists undertaking studies in about 150 locations, the CRC brought new understanding of the processes involved in greenhouse gas fluxes in a wide range of environments across the country.

The CRC's website is still operational and houses a range of reports and tools to assist decision makers to reduce their greenhouse gas emissions.

Further information is available at:  
<http://www.greenhouse.crc.org.au>

### Department of Sustainability and Environment

The Victorian Government has a role to set the climate change and greenhouse policy direction for the state. It also provides grant funding to organisations and the community to address climate change and greenhouse issues. Together with local government, the State has responsibility for many of the activities required to adapt to climate change including public infrastructure provision and maintenance, safety, water

management, health and land use planning and control.

The Department of Sustainability and Environment (DSE) oversees the implementation of the *Victorian Greenhouse Strategy* and coordinates the implementation of the Government's greenhouse and climate change programs across the state. Within DSE, the Environmental Policy and Climate Change Division is responsible for whole-of-government coordination of the development and implementation of the Victorian Government's greenhouse response program. The Division works closely with a range of DSE businesses and regional staff, as well as other Government departments and agencies on issues relating to policy analysis, negotiation, development and monitoring/reporting.

Further information is available at:  
<http://www.greenhouse.vic.gov.au>

### Office of Climate Change, Department of Premier and Cabinet

The Office of Climate Change was established in the Department of Premier and Cabinet in early 2007. The office will be responsible for whole of government policy and strategy, focussing on longer term issues and the economic, environmental and social impacts of climate change. The Office will also lead inter-jurisdictional policy development.

Further information is available at:  
<http://www.dpc.vic.gov.au>

### Victorian Greenhouse Alliances

The Victorian Government has established a number of Greenhouse Alliances under the Greenhouse Regional Partnerships Program (2003). This forms part of the Victorian Government's commitment to supporting greenhouse abatement activities by local communities through implementation of the *Victorian Greenhouse Strategy*. The program provides funds to employ a Coordinator in each of the six partnerships within Victoria.

The objectives of the program are to establish regional partnerships for greenhouse abatement to deliver projects and build capacity of local government, community and the private sector, and improve the integration and targeting of a range of government services and programs.

Three of the six alliances– Central Victorian Greenhouse Alliance (CVGA), South West Sustainability Partnership (SWSP) and the Northern Alliance for Greenhouse Action (NAGA) – existed prior to the provision of VGS funding. Two other partnerships – Western Port Greenhouse Alliance (WPGA) and the North East Greenhouse Alliance (NEGHA) were established as a direct result of VGS funding.

The alliances have different membership bases, varying from municipal councils only, to a mix of government, business and community groups. Of Victoria's 79 councils, over 40 are members of the six Victorian regional alliances, resulting in a strong local government focus in interests, project selection and project implementation.

Councils benefit from membership in a regional partnership through the sharing of information and expertise, by adopting collaborative approaches to regional and statewide issues and by the ability of regional partnerships to attract significant project and research funding.

#### International Council for Local Environment Initiatives (ICLEI)

ICLEI is an international association of local government and national and regional local government organisations that have made a commitment to sustainable development. More than 470 cities, towns, counties, and their associations worldwide comprise ICLEI's membership. As of April 2007, there were over 60 Victorian councils participating in the Cities for Climate Protection (CCP) program (see below), representing over 91% of the Victorian population. This is the largest population coverage of CCP for any state in Australia.

ICLEI works with members and other organisations on a range of campaigns and programs. One such program is CCP, which helps local government and their communities to reduce greenhouse gas emissions and their impact on the environment. In Australia, Cities for Climate Protection is delivered through a collaboration between ICLEI-Oceania and the Australian Government through the Australian Greenhouse Office (AGO), Department of the Environment and Water Resources.

Since 2002, the Victorian Government has

supported the CCP program, with a particular emphasis on the recruitment and support for rural and regional councils by providing funding for 'advancing action' to all councils within CCP Rural Victoria.

Further information is available at:

<http://www.iclei.org/index.php?id=about>

## 5.0 Current Level of Activity in Victorian Local Government

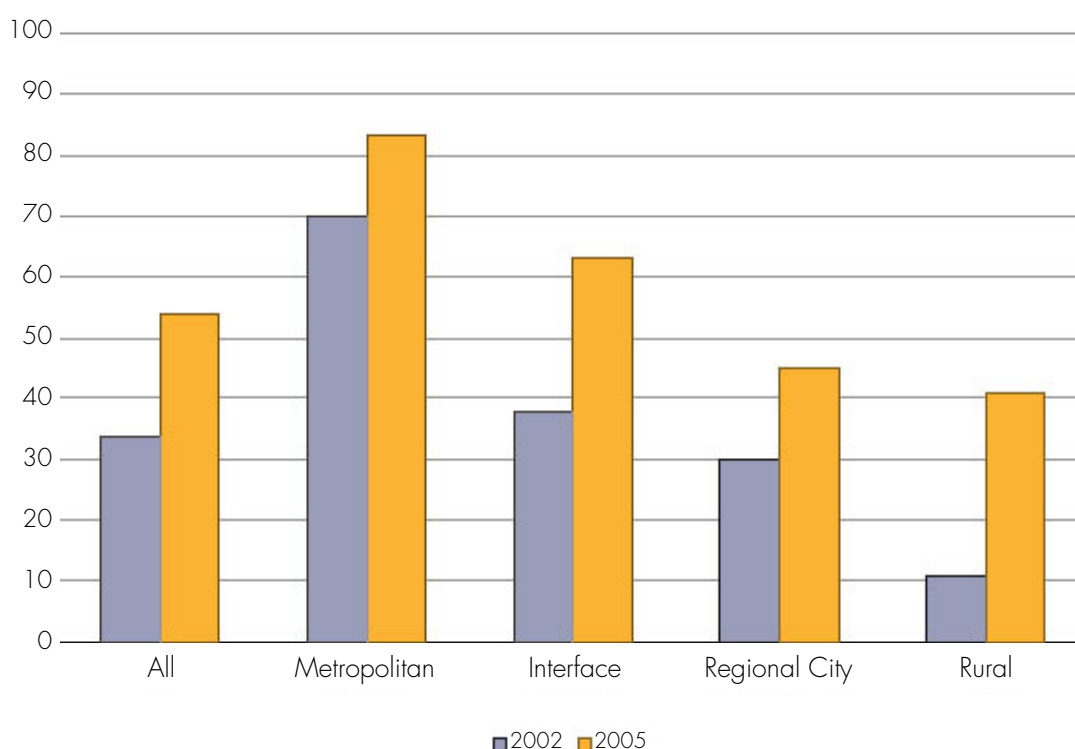
Every three years the MAV undertakes a survey of all Victorian councils on a range of environmental issues. The most recent survey was undertaken in late 2005. The findings from this and the 2002 survey inform this section of the report.

Data from the 2005 MAV Victorian Local Government Environment Management Survey shows that Victorian local government activity in greenhouse gas mitigation and climate change has increased over the past three years. More councils consider greenhouse and climate change a high priority issue for their municipalities and there has been an increase in the number of councils that have developed greenhouse/energy strategies and are participating in activities to reduce greenhouse gas emissions.

### 5.1 Priority Status of Greenhouse and Energy Management in Victorian Local Government

Greenhouse and Energy Management has increased as a priority issue for Victorian local government in the past three years. Figure 1 below shows that in 2002 34% of councils rated it as a high priority issue for their organisation. By 2005 it had increased to 54%. This issue is now among the top ten high priority environment issues of councils across the state (MAV, 2006).

Figure 1 - percentage of councils nominating greenhouse and energy management as high priorities



19 (of 23\*) metropolitan councils

5 (of 8\*) interface councils

5 (of 11\*\*) regional city councils

14 (of 34\*\*\*) rural councils

or 83% of all metropolitan councils (an increase of 13% since 2002)

or 63% of all interface councils (an increase of 25% since 2002)

or 45% of all regional city councils (an increase of 15% since 2002)

or 41% of all rural councils (an increase of 30% since 2002)

\* These sample sizes represent all the metropolitan and interface councils in Victoria

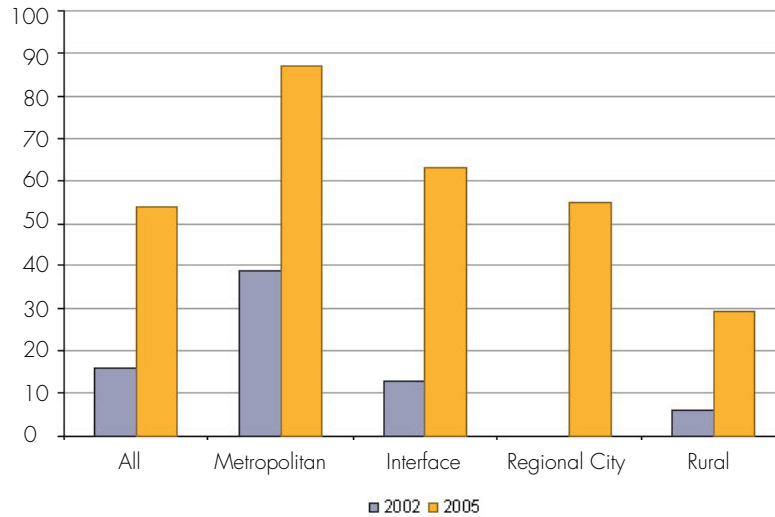
\*\* The number of councils declared as "regional city councils" has increased from five in 2002 to eleven in 2005.

\*\*\* There are 37 rural councils in Victoria, 34 of which replied to the 2005 MAV Local Government Environment Management Survey.

## 5.2 Greenhouse Strategies

Figure 2 shows that the number of councils with a greenhouse strategy has increased by 38% over the past three years. In 2005 54% of councils across the state reported having developed a greenhouse strategy, compared to 16% in 2002. A greenhouse strategy can be a specific strategy dealing with greenhouse issues or those that incorporate greenhouse as part of another strategy.

Figure 2 - percentage of councils with a greenhouse strategy



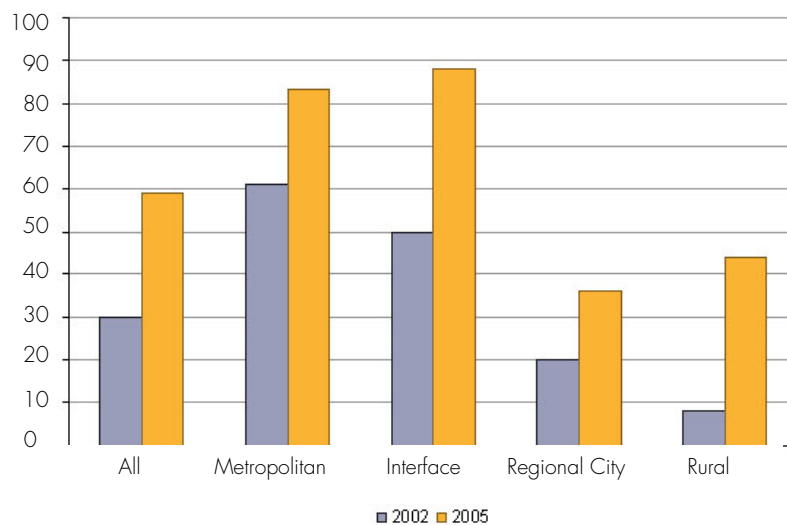
20 (of 23) metropolitan councils  
 5 (of 8) interface councils  
 6 (of 11) regional city councils  
 10 (of 34) rural councils

or 87% of all metropolitan councils (an increase of 48% since 2002)  
 or 63% of all interface councils (an increase of 50% since 2002)  
 or 55% of all regional city councils (an increase of 55% since 2002)  
 or 29% of all rural councils (an increase of 23% since 2002)

## 5.3 Involvement in Cities for Climate Protection Program

By 2005 59% of councils considered the CCP program to be major activity for their council, almost doubling from 30% in 2002 (this has since increased to 82% in 2006).

Figure 3 - percentage of councils that consider the CCP program as being a major activity



19 (of 23) metropolitan councils  
 7 (of 8) interface councils  
 4 (of 11) regional city councils  
 15 (of 34) rural councils

or 83% of all metropolitan councils (an increase of 22% since 2002)  
 or 88% of all interface councils (an increase of 38% since 2002)  
 or 36% of all regional city councils (an increase of 16% since 2002)  
 or 44% of all rural councils (an increase of 36% since 2002)

## 6.0 Common Issues for Local Government

A number of common issues for local government in responding to climate change were identified through the interview process and the MAV's Climate Change Policy Forum held in October 2006. These are discussed below.

Victorian local government is implementing a range of programs and actions in an effort to reduce greenhouse emissions in its own operations and from its local communities. ICLEI's CCP program, among other initiatives, is assisting councils to achieve this. To date community programs have largely focused on education and awareness campaigns.

While most councils are confident in their ability to deliver greenhouse mitigation programs few feel they are adequately prepared to deal with the effects of climate change. There is growing awareness across the local government sector that climate change will have an impact on council operations, the local community and environment. The majority of Victorian councils are aware of the need to implement actions to avoid or minimise impacts on council operations, the local community and environment; however a number of barriers are influencing their ability to develop and implement these. The most notable of these barriers are the level of awareness and understanding of councillors and staff of the local impacts of climate change; access to resources, including localised information and financial assistance; and confidence in the ability to incorporate climate change considerations into land use planning and decision-making processes.

### 6.1 Local Government's Role in Adapting to Climate Change

Councils have identified a strong role for themselves as a sector in both continued greenhouse gas mitigation activities and responding to climate change through adaptation. The roles of local government in climate change stem from its position as the closest sphere of government to communities and the range of statutory and non-statutory responsibilities, activities and community services it provides. Local government also has numerous links to other sectors of society.

The roles of local government are proposed to be those of informed leader, coordinator, communicator, advocate and change agent. Councils see a role for themselves to set a good example in both greenhouse gas mitigation and adaptation to climate change. Setting a good example includes improved asset and risk management, more astute policies and regulations, incentives for environmental initiatives, energy efficiency, recycling, stormwater harvesting and environmentally sensitive purchasing policies to list a few. Leadership is identified to include changing attitudes and behaviours in the community, and seeking to influence the policies and investment patterns of state and federal governments.

Councils welcome many of the initiatives and adaptation responses that have emerged in recent years in response to the growing understanding of climate change and its impacts. However, there is also some concern that not enough may be happening. Statewide programs and communications are viewed as positive additions to the response process, and specific initiatives at individual councils are noted with interest. Although many of the local government initiatives largely focus on greenhouse gas mitigation, adaptation responses are occurring and include increased councillor awareness and community consultation processes. The opportunity to learn from other councils is viewed as important by the sector.

### 6.2 Gaps and Barriers Affecting Local Government's Ability to Respond to Climate Change

Through the interviews conducted for this report, councils identified a number of gaps and barriers that currently inhibit development of effective climate change responses by the local government sector in mitigation and adaptation. These include:

- lack of leadership and strategic policy

- development by the Federal Government;
- inadequacy of local government resources for funding of staff to implement greenhouse programs;
- lack of understanding of the localised impacts of climate change on specific local government areas;
- absence of incentives for private environmental initiatives; and
- ineffective education programs / inadequate awareness-raising campaigns.

An important barrier identified is the lack of resources to build the capacity of local government to respond to climate change. Councils feel there is a need for increased funding to enable the sector to better respond to greenhouse gas abatement and climate change adaptation. Additionally, councils see the need for increased access to skills and expertise and relevant, up-to-date localised information on potential climate change impacts.

A number of councils have expressed a desire for greater guidance from external organisations on specific steps they could/should follow to adequately plan for climate change. This could help to make appropriate strategic planning decisions, improve community and stakeholder awareness and education programs and assist in priority setting for council business activities such as infrastructure provision, resourcing and policies.

Other specific needs include; planning overlays for areas vulnerable to climate change impacts (e.g. flood, fire, coastal damage and sea level rise); improved risk management within councils; comprehensive energy efficiency and other initiatives within every council (e.g. lighting, buildings, parks); and a significant increase in the priority given to climate change mitigation and adaptation.

### 6.3 Risks of Inaction

Through the case study interviews councils identified a range of risks to their organisations associated with specific projects. However, the greatest risk identified by most participants was not being involved in mitigation and adaptation. It was expressed that inaction on such a serious issue would adversely affect future decision making capabilities and the sustainability of local communities and regions.

### 6.4 Leadership

While councils believe they have a role in providing leadership at the local level many have expressed the need for greater leadership from the state and federal governments and their agencies. This is in the form of concise policies on greenhouse gas mitigation and climate change adaptation as well as the provision of dedicated long-term funding programs to assist local government, community and businesses to reduce their emissions and plan for future climate change scenarios.

### 6.5 Partnerships

Many councils are working in partnership with external organisations to address climate change issues. Councils expressed that the support provided by the Greenhouse Alliances and organisations such as ICLEI has been invaluable in assisting councils to develop programs and to share information.

Councils see the need to engage more effectively with a range of stakeholders in the future to address the potential impacts of climate change on local governments' operations and across society as a whole. Of most note local government has identified a need for strengthened relationships between councils as well as increased engagement with their communities. Councils have also identified the need to effectively engage with state and federal governments, science and research organisations, with industry peak bodies and businesses and importantly, the insurance industry.

## 7.0 A Way Forward



Local government has long been involved in greenhouse mitigation programs and activity in this area continues to grow. Additionally, councils are becoming increasingly aware of the need to prepare for, and adapt to, a changing climate. While participation by the sector is increasing, councils have identified a number of barriers and solutions to provide for further activity in the future. Many of these barriers make reference to additional funding necessary for discreet greenhouse and climate change initiatives. This however, needs to be balanced with recognition that climate action needs to be integrated with existing local government policies, program delivery and asset management processes. An integrated approach increases the possibilities for win-win programs that address climate change and provide an additional social, economic or environmental benefit.

1. Commitment to greenhouse and climate change at the national level – councils are seeking greater leadership from the Australian Government on climate change and an increased commitment to develop policy and programs that encourage greater emission reductions.
2. Focus on both mitigation and adaptation – While it is generally accepted that some degree of climate change is inevitable and there is a need to develop programs and strategies to adapt to these changes, councils would not like to see adaptation activities take away from time or resources put into reducing greenhouse gas emissions. As such, councils are keen to see a balanced approach to funding programs and activities which encourage both adaptation strategies and continuing greenhouse gas emission reductions to reduce the impact on future generations.
3. Access to up-to-date localised information – councils are seeking up-to-date, reliable information on the potential effects of climate

change on their local areas and regions. This information should cover a range of topics including environmental issues (such as rainfall patterns, extreme weather events, erosion and sea level rise, impacts on biodiversity, water quality); social issues (health impacts) and economic impacts (effects on various industries such as farming, impacts on development including long term land use implications, land capability assessments and mapping and building design implications).

4. Resources for research bodies to undertake localised studies – research bodies, such as the CSIRO, need appropriate resources to be able to undertake studies into the potential effects of climate change at the local level. This information is vital to assist councils and other land managers to develop strategies to adapt to a changing climate.
5. Improved long-term funding to local government – councils welcome external funding to assist in their efforts to mitigate greenhouse gas emissions and adapt to climate change. However, to be more effective, funding programs need to have a longer-term focus and align with council budget cycles.
6. Development of tools to assist councils to adopt adaptation strategies – councils are aware of the need to prepare for the potential effects of climate change and are keen to begin developing and implementing strategies in this area. However, there is a need for the development of a series of tools to assist councils to undertake this work and also to support their strategies. For example councils see a need for the development of specific handbooks for local government to provide a practical understanding of climate change, possible response to address the likely effect on the local area and guidance on how to develop adaptation strategies.

Councils are also seeking support from State Government agencies to develop appropriate overlays and zones to strategically address land use planning and risk management issues associated with climate change, and from bodies such as VCAT to uphold council efforts to address climate change.

This report has identified that greenhouse gas mitigation and climate change adaptation are important issues for Victorian local government. The last three years has seen more councils rating the issues as high priorities and developing strategies to guide council activity in these areas. However, there are a range of barriers affecting local government's ability to undertake further activities, particularly in the area of adaptation. With improved funding programs, sharing of resources and expertise and development of tools to support council activity there is potential to build on these efforts to deliver effective approaches and programs into the future.

## 8.0 Case Studies



This section contains 11 case studies detailing a range of greenhouse and climate change activities of councils across Victoria. The case studies focus on processes for effective project development and delivery, exploring issues such as drivers, risk management, resourcing, implementation, monitoring and review and future directions. Importantly the case studies also outline a number of key steps to guide program development in other municipalities.

Case studies detailed in the report:

Colac Otway Shire Council — Engaging Council in Climate Change Issues

Mornington Peninsula Shire Council — Engaging the Community in Climate Change

City of Casey — Partnership Approaches

Corangamite Shire Council — Farm Emissions Reduction Scheme

Moyne Shire Council — Port Fairy Small Business Energy Efficiency Pilot Program

Darebin City Council — Sustainable Transport Initiatives

Nillumbik Shire Council — Revolving Resource Conservation Fund

Gannawarra Shire Council — Using Utility Tracker to Address Council Energy Consumption

Manningham Shire Council — Energy Management in Municipal Buildings

Melbourne City Council — Incorporating Greenhouse Considerations into a New Council Building

Western Port Greenhouse Alliance — Westernport Adaptation Project

It is anticipated the case studies will provide useful examples of collaboration, information sharing and innovative approaches to guide future directions in greenhouse and climate change responses at the national, state and local level.

# Engaging Council in Climate Change Issues Colac Otway Shire Council

## Summary

In mid 2006 Colac Otway Shire Council held a forum to educate councillors on climate change and its possible effects on the municipality. The purpose of the forum was to generate renewed interest in climate change and the council's need to mitigate its emissions and to develop adaptation approaches.

## Snapshot of Council



**Size:** 3,432 sq km

**Location:** Colac Otway Shire Council is located two hours west of Melbourne

**Population:** 21,495 (2004)

**Rate Revenue:** 11,660,000 (2004)

**Natural Features:** Colac Otway Shire Council is renowned for its magnificent southern coastline, the Otway rainforests and the northern lakes and craters district.

**Available Resources for Environment Management:** Council has three full-time staff members devoted to environment initiatives.

**Partnerships for a broad range of environment issues:**

Council has engaged in partnerships with a number of state agencies (including DSE and the Corangamite Catchment Management Authority—CMA), local environment and community groups, Greening Australia, ICLEI and neighbouring councils (including members of G21) to progress environmental issues in the region.

**Cooperative arrangements on a broad range of environment issues:** Council, along with DSE and the Corangamite CMA, provides funding for the employment of the Lake Colac Project Officer.

## The Forum

In 2003 Colac Otway Shire Council signed up to ICLEI's Cities for Climate Protection program (CCP). Shortly after this council employed a staff member to develop an inventory of the organisation's greenhouse emissions. Council received a small grant from ICLEI on achieving this milestone. However, since then council has not had resources available to commit to major greenhouse actions; and consequently the organisation has made limited progress on its CCP program. Council had determined a number of targets for emission reduction at both the council and community level and it had drafted its Local Action Plan, but it was yet to be finalised. It was identified that something was needed to generate a renewed interest in the issue within the organisation.

Council's CEO and General Manager – Sustainable Planning & Development saw a need to educate councillors on the issues around climate change and importantly the possible effects on the shire. Together they contacted several experts in the field, including representatives from the CSIRO

and DSE's Environmental Policy and Climate Change Division, to participate in a full day councillor workshop in the municipality, held in mid-2006.

The workshop included regionally specific information on the science of climate change; possible effects of climate change on the shire's natural and built assets as well as the community (e.g. effects on coastal areas); and possible adaptation and mitigation responses council could consider. Issues discussed included coastal impacts, emergency management (including bushfire and flood) and community well-being.

Since the forum there has been renewed Council interest in the issue. Council is re-drafting the Local Action Plan to include greater emphasis on the need for adaptation measures in the municipality. With increased knowledge at the councillor level the shire is now in a position to take a lead on the issue regionally, where opportunities arise.

## Drivers for the Initiative

There were a number of drivers for council's involvement in greenhouse issues and the need for the workshop. There was an understanding within council that the organisation's operations contribute greenhouse gases to the atmosphere; however, the council had struggled to adopt best practice efficiencies. A number of staff saw an opportunity to improve the way council managed its energy consumption to provide economic as well as environmental benefits through more efficient resource consumption. The workshop was seen as one way to improve the understanding of council's decision makers on issues of climate change and their impact on council operations and the community. It was felt this would help to generate greater interest in the issue and provide motivation for increased action in this area.

Colac Otway Shire Council considers greenhouse gas mitigation and climate change adaptation to be a shared responsibility between all levels of government, business and the community. Through the workshop there has been growing recognition that climate change will impact on council operations in the future, therefore possible impacts need to be a consideration in all council decision-making processes.

## Risks to Council

While council identified a number of risks to the organisation from committing to greenhouse mitigation actions (namely the need to appropriately resource programs) it was of the opinion that the greatest risk to the organisation was not being involved in the issue. Council felt that not having an understanding of the issues associated with climate change and its impacts would adversely affect future decision making and ultimately the sustainability of the municipality.

## Benefits to Council

The workshop created the opportunity to provide a range of benefits to the organisation and the local community.

Raising awareness at the councillor level can help to progress a range of climate change and greenhouse mitigation programs by council. This in turn can provide a range of economic benefits through better management of resources and reduced consumption. Action to reduce emissions from council operations will have a number of environmental benefits through a possible reduction

in the threat posed by climate change.

The forum gave the council access to skills and expertise from a variety of organisations and leaders in the field. As a result of the sharing of knowledge, council is better placed to make long-term decisions for the benefit of the local economy, community and environment.

## Implementation

### Forum Development

There was no formal process for the development of the climate change workshop. The CEO and General Manager identified a need to raise awareness of the issue at the councillor level. Together they determined the issues for inclusion in the workshop and then approached relevant experts from a range of organisations to present at the forum. Councillors were informed of the workshop in advance and the CEO promoted the event as a good opportunity to improve understanding of the issue and its implications for the region and council's operations, as well as the need to be prepared for any future changes to local conditions. The link to council's existing programs, including the CCP program, was also highlighted.

### Resources

Some resources were required to hold the climate change workshop, including venue hire and catering. The CEO and General Manager chose to hold the workshop at an eco lodge to reflect the environmental intent of the day. Speakers were offered overnight accommodation. All resources came from council's operational budget.

There is recognition within council that progression of greenhouse mitigation programs and climate change adaptation will require resources. Council is exploring options to dedicate some additional staff resources to focus on the issue. In the interim council has contributed \$30,000 from the 2006-2007 budget towards reducing greenhouse gas emissions. This budget will become a "revolving fund", meaning that any savings that are made by reducing greenhouse gas emissions will be put back into the budget to be used on further energy efficiency initiatives.

### Links to Other Programs

The workshop has proven to be a catalyst for the development and progression of a range of

council policies and programs, such as the completion of council's Local Action Plan and the development of a strategic approach to climate change. The focus of the workshop was complementary to a range of state policies, mainly the Victorian Greenhouse Strategy, and other council programs such as Waste Wise, EcoBuy and water use plans.

While a forum/workshop could be developed by a single staff member within council, an organisational commitment and approach needs to be adopted as climate change issues influence and impact on a range of council business units. Colac Otway Shire Council has established a Green Team (involving representatives from a range of business units) to progress energy efficiency outcomes across the organisation. This work can be built on in the future to progress adaptation actions.

#### Partnerships

The establishment of partnerships has been integral to the success of the climate change workshop. Through the workshop council has established good working relationships with staff at the CSIRO and DSE.

Council also sees merit in drawing on existing partnerships, such as G21 (Geelong Region Alliance) or with neighbouring councils, to develop regional approaches to progress climate change actions. This could assist in sharing limited resources and experience to deliver benefits at the regional level.

#### Monitoring and Review

While council has only undertaken a few on-ground actions to date it is aware of the need for a monitoring and review process to assess implementation of the Local Action Plan and the Revolving Energy Fund. The process for this is currently being determined by the organisation.

There was no formal monitoring or review process set up for assessment of the climate change workshop. Rather the organisation is informally tracking its action on climate change issues that were discussed or picked up as part of the event.

#### Outcomes

There have been a number of important outcomes from the climate change workshop. It raised

awareness of climate change concerns and impacts for the local area and generated a renewed interest in the issue. This is helping to progress implementation of CCP and future planning for adaptation actions.

#### Future Directions

Colac Otway Shire Council is committed to progressing greenhouse and climate change programs into the future.

In the first instance the shire is focused on finalising and approving its Local Action Plan. Mitigation actions to be progressed from this plan will be funded through council's Revolving Energy Fund, being developed through a council budget commitment for 2006/2007.

In the long term the organisation is developing a strategic approach to preparing and adapting to the likely impacts of climate change on its operations and the local community. Council sees this work encompassing environmental management (with a strong focus on coastal management in the first instance), land use planning, emergency management, community health and economic development.

#### Lessons Learnt

Colac Otway Shire Council has learnt a number of lessons through holding the climate change forum and its involvement in CCP.

- It is important the decision makers have a good understanding of the current climate change issues and information. Having credible experts present at locally/regionally focused workshops or forums helps to make the problem real and gives decision makers an understanding of the implications of climate change;
- through the workshop it has been reinforced that greenhouse gas mitigation actions are one way council can make a contribution to reducing the impacts of climate change. However, there is a greater challenge facing councils and that is the need to plan for the likely impacts of climate change to reduce the effects on local communities and built and natural assets. These need to look beyond environmental issues and include other business areas of council such as emergency

management, infrastructure provision and maintenance and specific vulnerable communities (such as coastal or low lying settlements);

- it is important any program involvement is resourced. CCP is a useful program as it provides a level of support; however, a further commitment is required to ensure action can be undertaken. It is also helpful to build goals into staff work plans as a means of ensuring action across the organisation; and
- having a staff member dedicated to the matter and a process to communicate issues and ideas to various business units in council can help to get information out to the relevant people within council and encourage collaboration.

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### Key Steps to Progressing Climate Change Issues

The following are a number of steps to assist staff interested in progressing climate change issues in their council:

1. equip councillors, senior management and other staff with current information on greenhouse and climate change. Improved understanding of the issues across the organisation can encourage action;
2. tailor workshops or information to the regional or local level. It helps to gain commitment to action if decision makers understand the implications for the organisation and the local community;
3. do not focus solely on greenhouse mitigation. Use information sessions to raise awareness of the need to plan for future climate change and to develop adaptation actions for the local area; and
4. use the momentum from awareness raising activities to give programs such as CCP a kick start or renewed enthusiasm.

# Engaging the Community in Climate Change

## Mornington Peninsula Shire Council

### Summary

Every two years Mornington Peninsula Shire Council undertakes a round of community consultation to help inform its planning processes. In 2006 council used this opportunity to engage the broader community in climate change as it relates to the shire.

### Snapshot of Council



**Size:** 720 sq km

**Location:** Mornington Peninsula is located just over an hour's drive south east of Melbourne.

**Population:** 138,773 (in excess of 190,000 over summer)

**Rate Revenue:** \$61,661,000

**Natural Features:** Mornington Peninsula is a promontory separating Port Phillip and Western Port Bays. The Peninsula contains a diversity of scenic landscapes with coastal boundaries extending over 190 kilometres. It is a mixture of urban areas, resort towns, tourist development and rural land.

**Available Resources for Environment Management:** Council has 12 officers with roles in environment activities ranging across conservation, natural resource management, planning and education.

**Partnerships for a broad range of environment issues:** Mornington Peninsula Shire Council has entered into a range of partnerships to progress environmental initiatives including: State government agencies, ICLEI, Port Phillip and Westernport Catchment Management Authority (PPWCMA), other crown land managers, local land-care and community groups, neighbouring councils, community railway managers and schools.

**Cooperative arrangements on a broad range of environment issues:** Council is a member of the Western Port Greenhouse Alliance and contributes financially to the operations of the organisation. It is also a member of the Association of Bayside Municipalities, contributing financially to the running of the organisation and the Executive Officer position. Additionally, it is a member of the Mornington Peninsula and Western Port Biosphere Reserve Foundation.

### Your Community, Your Future

Every two years Mornington Peninsula Shire Council undertakes a round of community consultations, titled Your Community Your Future, to help inform its community planning process. 2006 was the third round of consultations, with 14 sessions held across the shire. The sessions were broken into two parts. The first part focused on concepts of a sustainable peninsula, as council has a diverse population. The second part was devoted to specific local infrastructure and planning issues. Following a brief township-specific presentation on these issues the balance of the session gave the community an opportunity to get local issues on the agenda.

This year council sought to change the content of the first section of the session. Climate change

was identified by council as an issue the community needed more information about and needed to be included in council's planning for the future. To allow for this the first session was changed to include a 35-40 minute presentation on greenhouse and climate change issues as they relate to the Mornington Peninsula community.

It began with an overview of the science behind the issue. This was followed by climate change predictions for the region, taken from the regional reports developed by DSE and the CSIRO, and implications for local agricultural productivity, the vulnerability of coastal settlements and the scale of threat using examples for the local area. From this the presentation looked at the roles and responsibilities of the three levels of government and what the council is doing to reduce its

emissions and plan for the future. It then explained what the community can do at home to help reduce emissions. Each participant was given a show bag at the end of the session which included information on climate change, greenhouse gas emissions and natural resource management, an energy efficient light bulb, shower timer and thermometer to monitor the temperature of the home.

#### Drivers for the Inclusion of Greenhouse and Climate Change

Greenhouse and climate change feature in many of council's policies. The Executive and Council decided that greenhouse issues needed to be better integrated into decision making around infrastructure and building provision and to achieve this there was a need for greater community awareness of the potential effects of climate change in the region. This would help the community to appreciate the activities of council in this area now and into the future. Additionally, there was a desire in council to show leadership on this issue and to support the community to take steps to address their own emissions.

Mornington Peninsula Shire Council recognises that the issue of climate change will affect council operations and the local community in the near future. As such the issue is gaining prominence in much of council's decision-making processes. Being a coastal council issues of sea level rise, coastal erosion and infrastructure management and maintenance in the face of a changing climate are threats to council operations and raise numerous questions about future liability. Council is conscious that it must be balanced in its approach to the issue. Through its information sessions the organisation wants to begin preparing residents for possible climate change impacts rather than scare them or cause a reduction in investment in the region.

#### Risks to Council

Mornington Peninsula Shire Council felt it was of greater risk to the community and the organisation to not include climate change and greenhouse on the agenda for their community planning sessions.

#### Benefits to Council

By raising community and organisation awareness of the issues and affects of climate change on the local area, council is better able to plan support services that will be required by its community. The

shire is home to a large number of elderly residents who may be particularly vulnerable to changed climate patterns. Awareness raising is one way for council to identify and plan for sustainable service provision in the future.

Greater awareness allows for informed decision making at household level. Being aware of potential consequences of lifestyle choices could help residents change their decisions about home heating and cooling and other emission intensive activities. It will also help them to better understand council's activities and decision making on issues such as siting and design of future facilities.

The initiative is also helping council to be accountable to the community as its decisions are guided by what was discussed at the community planning sessions.

#### Implementation

##### Development

The inclusion of climate change to the agenda for the 2006 round of Your Community Your Future was the result of a staff presentation to Council. At the last elections five new councillors were elected to Council, and the presentation was to inform these new councillors of the issues of climate change, implications for the local community and council operations and activities in this area. It was also an opportunity to update existing councillors on current activities. From this, Council decided it was an issue that required greater inclusion in decision making and for community awareness. The process for including the issue in the community planning sessions came from officers working with council's Executive.

##### Resources

The community planning sessions are a recurring line item in council's budget for the years they are to be held. Council budget covers a range of sustainability actions such as the use of recyclable paper cups and plates made from sugar cane. This year they also covered the cost of the 650 show bags given away over the fourteen sessions. These show bags cost between \$20 to \$25 each. The development of the climate change presentation was undertaken by the Sustainable Energy Officer.

### Links to Other Programs

The presentation was informed by a range of activities currently being undertaken by council, including:

- council's membership of the Western Port Greenhouse Alliance;
- involvement in ICLEI's Cities for Climate Protection program and Water Campaign;
- street tree policy, which states all species used must be robust and able to adapt to changes to the region's climate;
- parks and gardens policy specifies all turf used by the council must be drought tolerant; and
- council's energy policy.

While the presentation and other information used in community planning sessions can be collected by a staff member, the implementation and inclusion of community concerns identified through the planning sessions need to be delivered across council, because of the diverse range of business areas that can potentially be affected by climate change. Therefore it is important to secure an organisational commitment on the issue prior to the commencement of the community planning sessions. This initiative was driven by the council's Executive with support from various departments.

### Partnerships

Partnerships have been vital to the successful delivery of the climate change component of council's community planning sessions. Sustainability Victoria helped with the provision of information materials and DSE's Greenhouse Unit reviewed and provided comment on the content of council's presentation.

### Monitoring and Review

There was no formal monitoring and review process as part of the session. Rather it was an informal process involving documenting issues identified and maintaining a watch on the content of emails relating to the planning sessions. It has also involved noting how many requests for additional presentations to other community groups have resulted from the community planning session. Prior to the planning sessions council's newsletter "Peninsula Wide" featured a lead article on the issue, with a follow up article at the completion of all sessions. The quality and range of questions asked at the sessions indicated there is a wide gulf between the level of understanding

of those new to the issue and those already exposed to it through other channels.

### Outcomes

The inclusion of climate change in the community planning sessions was considered a success by council and the majority of participants. Many participants expressed their appreciation of the simple presentation format and of having access to good quality, reliable information, which had been tailored to their local area. They felt this gave them a set of tools to take away to make changes to their lifestyle to reduce greenhouse emissions.

At the same time other participants felt it was not appropriate to give the issue such prominence in the agenda as they were more interested in discussing the more traditional issues of roads, rates and rubbish. While council agreed it may not have been the most ideal forum to discuss the issue, it considered it an excellent opportunity to raise the awareness of some sections of the community who ordinarily would not come to an environmental forum. It also provided an opportunity to highlight the possible effects that climate change could have on the economic, social and environmental values of the region.

### Future Directions

In addition to including the outcomes of the community planning session in council's community plans, the organisation is exploring opportunities to continue to raise awareness of the issue in the community. Council officers are currently investigating the possibility of a wider roll out of the presentation, because of the interest generated by the sessions. Council has also offered the concept to members of the Western Port Greenhouse Alliance and is looking at options to make the council officer available to present to other groups in the region. In the near future council is also interested in holding an expo showcasing greenhouse-friendly products and services to the organisation and the community.

### Lessons Learnt

Council has learnt a number of lessons from engaging the community in its planning for climate change and greenhouse action.

- When council was promoting the community planning sessions it dedicated a front page

article in its newsletter to explaining climate change issues and the inclusion of the topic in the sessions. However, some residents felt they did not have enough warning of the content. In the future council will look at other ways to promote its intentions.

- Council will also look at ways of attracting a younger audience to future sessions, including offering childcare for those who require it.
- Climate change and greenhouse issues are such big topics that it is difficult to do them justice in a short time. Therefore council was conscious of the need to simplify the presentation and tailor it to the local area.
- Making the presentation positive while at the same time informative helped council to show how individual residents can help reduce emissions. It is hoped this approach will encourage action, rather than focusing on the negatives which may have made residents feel helpless and less likely to be motivated to take action.
- By including the topic in the community sessions council was able to reach a wider audience than if it had held a half-day issue specific forum. It has the potential to make a greater difference with council not just preaching to the converted.

and develop a greater level of understanding and a consistent message across business units and all levels of operation.

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### Key Steps to Engage the Community in Council Decision Making for Climate Change

The following are a number of key steps to assist other councils interested in engaging their community in council decision making on climate change and greenhouse issues:

1. be clear about what you are trying to achieve with the sessions at both the organisational and community level;
2. make sure your presentation is positive and encouraging. Conclude with an optimistic message to encourage the community to make a difference; and
3. by ensuring the initiative is supported by Council, the executive and senior managers, you can generate cross organisational support

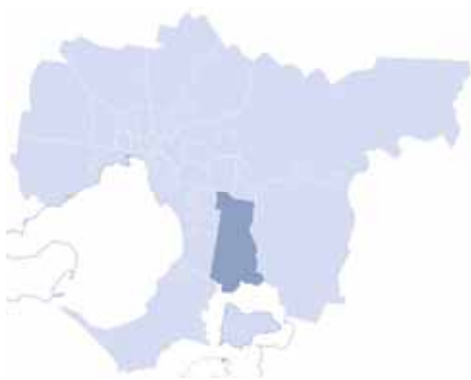
# Partnership Approaches

## City of Casey

### Summary

The City of Casey works in partnership with four neighbouring councils through the Western Port Greenhouse Alliance to progress climate change issues across the region. Working in partnership provides multiple benefits to all member councils and their communities. In addition to being an active member, the City of Casey houses the Alliance and employs its officers.

### Snapshot of Council



**Size:** 395 sq km

**Location:** The City of Casey is situated 35km south east of the Melbourne CBD.

**Population:** 225,000

**Rate Revenue:** \$84,795,000

**Natural Features:** The City of Casey has a diverse landscape including the important grazing lands of the foothills and is bordered by the ecologically significant Westernport Bay.

**Available Resources for Environment Management:** Council has four full-time staff devoted to environmental issues.

**Partnerships for a broad range of environment issues:** Council is involved in a range of partnerships to deliver environment activities

including the Westernport Biosphere, Westernport Catchment Committee, and with other councils and state agencies.

**Cooperative arrangements on a broad range of environment issues:** Council is a member of the Western Port Greenhouse Alliance. It contributes financially to the operations of the organisation and hosts its three staff.

### Background to the Greenhouse Alliance

The Western Port region is located to the south east of Melbourne. The Western Port Greenhouse Alliance (WPGA) was established in June 2004 to provide a regional framework for local government to work together on climate change and greenhouse gas projects in the Western Port region. Membership comprises the five councils in the region: City of Casey; Cardinia Shire Council; Bass Coast Shire Council; Frankston City Council; and Mornington Peninsula Shire Council.

In 2005, the Victorian Government released the Victorian Greenhouse Strategy Action Plan Update, which provided funding under the Regional Partnership Program for WPGA to continue to provide a regional framework for local stakeholders to respond to climate change and reduce greenhouse gas emissions. The additional funding has been provided to enable the WPGA to continue the employment of an Executive Officer and to cover administrative costs related to the WPGA. City of Casey is the signatory to the contract with the Department of Sustainability and

Environment (DSE) on behalf of the regional members and employs the WPGA Executive Officer, providing office space and day-to-day supervision.

The WPGA aims to provide a regional framework for local stakeholders to respond to climate change and reduce greenhouse gas emissions. The WPGA objectives to achieve this are:

- facilitate and coordinate the development of multi-sectoral partnerships with the aim of developing regional greenhouse gas abatement projects, to avoid duplication of effort and to share information, resources and capacities in the region;
- strategically define regional priorities for action through the development of a Western Port Regional Greenhouse Strategy;
- initiate and coordinate the implementation of multi-faceted regional programs and projects aimed at helping the region respond to climate change and reduce greenhouse gas emissions in the region;
- identify and seek funding and resourcing

initiatives to assist the WPGA achieve the objectives;

- increase awareness of regional greenhouse gas emissions and capacity to reduce emissions among stakeholders within the region;
- advocate for more funding and resources for regional reductions in greenhouse gas emissions and support initiatives aimed at achieving these outcomes;
- share relevant information among WPGA members to assist in achieving regional greenhouse gas emission reductions and share with other regions and organisations relevant information to assist with their efforts; and
- develop the internal structures and capacity of the WPGA to achieve the objectives and ensure the long-term continuity of the group.

### Drivers for the Development of the Alliance

Frankston City Council was approached by DSE in early 2004 to establish a greenhouse alliance in the region. At that stage the City of Casey offered to host the Alliance as it had available office space.

The funding provided by DSE was important to establish and support the WPGA's operations. It has allowed for the employment of a full-time Executive Officer to administer the Alliance and provide support to its members. Without this funding commitment councils could not appropriately resource the organisation.

The City of Casey was keen to be a member of the Alliance as it provided a vehicle for leadership in the area of greenhouse and climate change across the region. The partnership has been able to encourage/facilitate more focused action in this area, providing wider benefits for member councils and their communities.

The City of Casey's recognition of climate change as an activity of council has increased in recent years as the organisation's understanding of the possible effects of a changing climate on council business areas has grown. As such the issue and the need to manage emissions and develop adaptation strategies is growing.

### Risks to Council from involvement in the Alliance

The City of Casey identified a number of risks to their organisation from involvement in, and hosting of, the WPGA.

The WPGA is an unincorporated organisation and therefore unable to enter into a contract with DSE for funding of the Alliance. On agreeing to host the Alliance the City of Casey signed the contract with DSE on behalf of members. In the early days of the contract there was no formal arrangement between the five councils. The City of Casey could not deliver the terms of the contract alone, as project delivery required involvement of all councils. Without a formal agreement between the partners the City of Casey was carrying all risks associated with the contract. To overcome this a Memorandum of Understanding (MoU) was developed and signed by all members of the WPGA. The MoU aims to promote cooperation and mutual obligation between the WPGA members, facilitate management of the DSE contract funds and ensure contract responsibilities are fulfilled.

Public liability issues were also risks associated with the WPGA. The City of Casey agreed to cover the insurance of the WPGA staff and day-to-day operations of the Alliance. Specific projects undertaken by the Alliance are covered on a case-by-case basis. For example, if a project is being carried out primarily in one council area, that organisation will cover the insurance requirements of the activity.

DSE funding arrangements for the Alliance present a further risk. Funding is provided on an annual basis which can make it difficult to provide job security for the Alliance's Executive Officer. This in turn has the potential to make it difficult for the Alliance to attract and/or keep highly qualified individuals to administer the operations of the Alliance.

When the City of Casey agreed to host the Alliance and its Executive Officer it was aware of the perception that council might monopolise the time of the Executive Officer. Council was keen to ensure all members had equal access to the Executive Officer's time and to shaping the direction of the Alliance. To facilitate this all members of WPGA nominate an appropriately qualified officer to serve on a Management Committee. The WPGA Management Committee

(which meets every six to eight weeks) is responsible for establishing and approving projects and strategies required to fulfil the terms of the DSE contract, setting the budget for the expenditure of the grant and approving the workplan and directions of the Executive Officer. The WPGA Management Committee must ensure that all partners in WPGA have equal access to the resources and projects funded under the agreement with DSE.

#### Benefits to Council from Involvement in the Alliance

The Alliance is proving to be a catalyst for raising the awareness of greenhouse issues within council and the wider community. Through the group council staff are able to encourage greater involvement from their organisations in the areas of greenhouse abatement and adaptation. Additionally, it provides a vehicle for sharing experiences and ideas between members.

Being part of a partnership allows access to the skills and expertise of the Alliance's Executive Officer. Additionally, working together has given the five councils access to experts in the field, such as the CSIRO, which may not have been available if councils were working independently.

Delivery of projects has given the community access to the expertise of the Alliance, council members and other relevant organisations, which helps to raise awareness of issues and encourage community participation in developing and delivering solutions.

## Implementation

### Development

Before the City of Casey could agree to housing the Alliance staff it had to submit a request to council's executive. The key messages in this request included:

- the Alliance provided an opportunity to work collaboratively with other councils to provide region-wide benefits and share information and resources;
- DSE was providing funding for the administration and operations of the Alliance; and
- council would be required only to employ the Executive Officer on behalf of the Alliance, supply desk space and administer the funds.

### Resources

Each year DSE provides funding to cover the administration of the Alliance. Additionally, each member contributes funds to cover the expansion of the Alliance, which includes hiring of additional staff and some project expenses. The WPGA determined a flat membership fee was an equitable arrangement as each member has the same access to the Executive Officer and other support mechanisms of the Alliance.

As well as financial contributions each member commits staff time to supporting the Alliance, through participation in the WPGA Management Committee and by attending workshops and supporting projects delivered by the Alliance. The City of Casey provides additional in-kind support to the Alliance through housing of staff and their supervision and administration of the organisation's funds.

### Links to Other Programs

Each Alliance member is also a member of ICLEI's CCP program (involvement in CCP was not a requirement of membership to the Alliance). Activities of the Alliance are helping members to deliver and build on their CCP commitments.

At present involvement in the Alliance is primarily through council environment staff. However, involvement from other council departments is fundamental to the successful delivery of many of the Alliance's projects. For example, street lighting activities require the involvement and support of council engineering and asset management staff.

In the future the outcomes from current alliance programs, such as the adaptation project, will influence many business areas of council, from environmental management to land-use planning, infrastructure and emergency management.

### Partnerships

In addition to the partnership between councils and DSE the Alliance has allowed for relationships to develop between council staff and experts in the field of greenhouse and climate change, e.g. the CSIRO. Through project delivery councils are developing stronger links with their community such as volunteers and landcare and friends-of groups.

## Monitoring and Review

The Alliance undertakes an annual review of its activities and strategic directions for the future, which is overseen by a subcommittee. This committee determines the process for the review each year. It is made up of representatives from two of the members, DSE and a consultant. A number of workshops are undertaken with members to inform the review. The outcomes of the review are sent to each council to assess their ongoing involvement in the Alliance. The City of Casey reviews its involvement as part of its annual budget process.

Each project undertaken by the Alliance has an in-built monitoring, review and evaluation component, in line with the requirements of the various funding bodies.

## Outcomes

The latest review revealed the Alliance as a valuable organisation within the membership, having to date achieved and exceeded expectations. Councils have acknowledged the importance of the Alliance by agreeing to contribute financial resources to enable it to continue to build on past projects and deliver wider regional benefits. When first established the member councils did not imagine the Alliance would be employing three staff and undertake such a wide range of greenhouse mitigation and adaptation projects in so short a period of time.

## Future Directions

The City of Casey is committed to continued involvement in the WPGA. Council is also committed to ongoing hosting of the Alliance subject to available space and support from other members. However, in the future it may be necessary to develop an arrangement where the housing of the Executive Officer and other staff is rotated among the membership, depending on the focus and future directions of the Alliance.

As the WPGA grows it may be necessary for the organisation to become incorporated. This may assist with securing large grant funding opportunities and allow for greater independence. However, at this stage current arrangements are sufficient for the ongoing administration of the Alliance.

Alliance members are keen to enter into an

arrangement with DSE to secure a commitment for more long-term funding, e.g. three years rather than annually. This would help to provide job security for the Alliance Executive Officer and other staff.

Currently Alliance members are represented by officer participation on the Management Committee. The Alliance is considering the possibility of developing a reference group consisting of councillors and CEOs from member councils. This would help raise awareness of the Alliance and greenhouse issues at a political level, which in turn would open up future opportunities for action.

The Alliance has developed a range of projects which will be a focus of activity into the future. These include:

- Effects of Climate Change on Human Settlements in the Western Port region – This project will look at the possible effects of climate change on communities in low lying coastal areas in the municipality, as well as potential impacts on housing and accommodation in key areas. The project has a two-year timeline;
- Agricultural Emissions – the purpose of this three-year project is to identify priority sources of emissions from the agriculture sector in the Western Port region and develop projects aimed at reducing these emissions;
- Energy Efficient Street Lighting – This 12-month project aims to promote and facilitate the introduction of energy efficient street lighting within the five WPGA member council areas;
- Carbon Sinks – This project is still under development. It aims to establish a coordinated, regional program to offset greenhouse gas emissions by the development of multiple-benefit carbon sinks and prepare the region for carbon investment; and
- Community Education – The project will develop and establish a regional framework, to support and facilitate the development of community based initiatives aimed at engaging and facilitating changes within households and schools to reduce greenhouse gas emissions.

## Lessons Learnt

The City of Casey has learnt a number of lessons from involvement in the WPGA.

- Partnerships can achieve what councils cannot do alone. They can challenge members to become more involved in activities and support councils that may not have the capability to deliver actions without assistance.
- It is important not to get caught up in governance structures at the beginning. Rather it may be more beneficial for the Alliance to get some 'runs on the board' and demonstrate the value of working in a partnership. This can help to generate an ongoing commitment from members to the continuation of the partnership. Over time the appropriate governance structures can be developed to service the needs of the alliance.
- It is important to ensure the long-term sustainability of the alliance. This could be assisted by CEO and councillor engagement as well as a commitment for officers to participate. Regular briefings to councils can assist with this.

4. when these issues have been resolved formalise the arrangement and develop a strategic plan to help guide the direction of the partnership.

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## Key Steps to Establishing an Alliance

The following are a number of key steps to assist other councils interested in a partnership to tackle greenhouse and climate change issues:

1. determine the most appropriate membership base for the issues you want to address. E.g. do you want to concentrate specifically on local government operations or would you be seeking wider community involvement?;
2. in the beginning start informally. Focus on getting all the relevant parties together. Discuss what each potential member is seeking from involvement in a partnership. During this process make sure each potential member articulates their expectations of the partnership. Define how the partnership can meet the needs of all members and look for common points of interest. Also define what members will and won't do as a group;
3. make sure involvement in the partnership will not be too demanding on members, including financial commitments and staff time contributions; and

# Farm Emissions Reduction Scheme

## Corangamite Shire Council

### Summary

Corangamite Shire Council developed the Farm Emissions and Efficiency Project to raise community awareness of climate change and greenhouse gas emissions from agriculture. 55 landholders were involved in the program, reducing emissions from their operations by 260 tonnes over a six month period.

### Snapshot of Council



**Size:** 4,357 sq km

**Location:** Corangamite Shire Council is situated mid-way along Victoria's south west coast.

**Population:** 17,327 (2004)

**Rate Revenue:** \$9,687,000

**Natural Features:** The shire is home to picturesque landscapes including significant coastal features, of note the Twelve Apostles and Port Campbell National Park, as well as volcanic hills and a range of State and National Parks. This is contrasted by an agricultural landscape supporting dairy, grazing and grain enterprises.

**Available Resources for Environment Management:**

Council has three full-time staff dedicated to environment issues.

**Partnerships for a broad range of environment issues:** Corangamite Shire Council has entered into partnerships with various organisations to progress environment issues including neighbouring councils, the Corangamite CMA, ICLEI, state and federal government agencies, local landcare groups and other environment organisations.

**Cooperative arrangements on a broad range of environment issues:** Council provides support to the regional sustainability network and the regional waste management group.

### Farm Emissions and Efficiency Project

Corangamite Shire Council developed the Farm Emissions & Efficiency Project (FEED) to raise community awareness of climate change and greenhouse gas emissions from agriculture. The project was funded by a grant from the Community Action Fund (CAF) through the Department of Sustainability and Environment (DSE). As part of the project, landowners calculated the greenhouse gas emissions from their farm and learnt about ways to reduce these emissions by increasing the efficiency of farming systems.

All farmers participating in the scheme were given a site inspection and a work book containing a number of information sheets outlining what emissions were produced as part of agricultural activities and ways to reduce them, as well as a CD containing all the spread sheets which could be used to assist in calculating emissions and reductions. The spreadsheets were developed by the Greenhouse CRC.

Each participating landholder was surveyed twice during the six months of the project. The first of these occurred at the start of the project and was an introduction to the program and the issues associated with greenhouse and climate change. The second occurred towards the end of the program and looked at how much greenhouse gas had been saved by implementation of efficiencies in resource usage as part of farming operations.

Council had a target to reduce 212 tonnes of CO<sub>2</sub> over the six-month period. The 55 properties involved in the project saved an extra 50 tonnes of CO<sub>2</sub> on top of this target.

### Drivers for Project Development

A number of projects had been developed to address community greenhouse emissions. However, there was an absence of projects and tools to assist the farming sector to reduce the emissions generated by their businesses. As the

municipality has a significant farming population council felt this was a gap that needed to be addressed. At the same time council was considering signing up to ICLEI's Cities for Climate Protection (CCP) program. The organisation saw the development of a project that focussed on emission reduction as a way to ease into the activities of the CCP program prior to establishing any formal targets for emissions reduction as required by the program.

Additionally, having access to funding through the DSE made the development and delivery of FEEP possible. Without this funding council would not have been in a position to resource the project.

Council's role in greenhouse mitigation and climate change has been increasing in recent years. The organisation believes it has a responsibility to reduce the impacts of climate change, which is why it signed up to the CCP program.

Whilst CCP is core business of council, FEEP has come to the end of its funding period. The program had a great deal of momentum over the short period it was running; however, council did not have the resources to continue to actively deliver the program beyond the life of the DSE grant.

#### Risks to Council from Project Delivery

Council identified several risks to the organisation from delivery of FEEP. Factors limiting participation were identified prior to the roll out of the program by the project officer and other members of the Environment Unit. Measures were then put in place to try to overcome these.

Of most note was the risk that local landholders would see the program as an intrusion on their livelihood and that it was not council's role to be involved in such activities. To counter this council used the media and other networks early on to raise the profile of the program to clearly articulate its goals and avoid confusion. As a result the organisation received minimal negative feedback from landholders on the program.

There was also a risk landholders would not be interested in participating in the program. Early in its delivery council worked with local landcare and other groups to identify landholders willing to

participate in the program. It was hoped that early participation by some members of the community would generate interest and participation across the farming community.

#### Benefits of the Initiative

The greatest benefit of the project was providing landholders with access to skills and expertise in greenhouse issues and climate change. The more interaction landholders had with council staff through the program the greater their awareness. Many landholders were cynical of the program at the beginning; however, this reduced significantly as they became exposed to information and tools to address emission production.

There were also economic benefits for landholders participating in the project as improving efficiency of agricultural operations reduced farming costs. Council actively promoted this aspect of the project to landholders, providing an information sheet on how changing operations to benefit the environment could also provide financial benefits to the landholder.

Through the program council developed stronger relationships with local landholders and community groups. This will be beneficial for the delivery of future council programs.

The success of the project has raised the profile of the council both locally and at a statewide level. Numerous organisations have approached council to learn more about the program.

#### Implementation

##### Project Development

Council had a basic plan for the design and delivery of FEEP, which had been developed as part of the DSE grant application process. This was refined when council received the grant and following the employment of the project officer. Development of the project did not require a formal report to Council; rather it needed approval at managerial level. The manager was supportive of the goals of the project so approval was straightforward.

##### Resources

Council received a grant of \$19,500 from the DSE to employ a part-time project officer to oversee the program and to develop information kits for participants. This was for a 12 month

period, however the actual delivery time of the program was six months. Council provided in-kind contribution in the form of office accommodation, vehicle access and administrative on-costs.

In addition to having a designated staff member to deliver the program, council relied heavily on the expertise of external organisations, such as the Greenhouse CRC, to provide specific calculators and tools to assist landholders with assessment of their greenhouse emissions and reductions.

Since the conclusion of the grant funding period council has not actively promoted the program, however, it is still providing information packs and advice to landholders interested in the program. Information is available to landholders on council's website ([http://www.corangamite.vic.gov.au/Page/page.asp?Page\\_id=960&h=0](http://www.corangamite.vic.gov.au/Page/page.asp?Page_id=960&h=0)) and an officer is available to take calls from landholders on the program.

#### Links to Other Programs

FEEP set the scene for the council's Local Action Plan by helping raise awareness of actions that could be undertaken at a local level to mitigate greenhouse gas emission in the community. It also helped inform the climate change section of council's environment strategy, which is currently under development.

The objectives of the program were complementary to the Victorian Greenhouse Strategy and other regional strategies on greenhouse and climate change.

A program such as FEEP can be delivered by one staff member, however, it benefits from support across the organisation as this provides opportunities to tap into network outside of a single business unit.

#### Partnerships

Corangamite Shire Council drew on a range of partnerships to assist with the delivery of FEEP. It targeted groups where there was mutual benefit from involvement.

- Council developed a partnership with the Greenhouse CRC to develop the information packs and calculators to assist landholders assess their emissions;
- the DSE provided funding assistance and access to information on greenhouse mitigation and climate change;

- other departments across council provided information on marketing opportunities to target landholders across the shire; and
- council tapped into existing networks such as the Heytesbury District Landcare Network, the Lismore Land Protection Group and Camperdown College to raise the profile of the program and increase landholder participation.

Council is sustaining these partnerships by providing bodies with on-going feedback from the project and other information of relevance.

#### Monitoring and Review

The program was largely self monitoring. The second survey asked participants whether greenhouse emissions were factored into the purchase of equipment for the farm during the project period. The information recorded in the workbooks and associated spreadsheets was used to monitor emission reductions during the six months. This tool could be used to undertake ongoing monitoring if the landholder is interested.

If council were to undertake a second round of the program it would re-interview original participants to identify any barriers or issues that influenced on-going monitoring of greenhouse emissions from farm operations. Findings would help inform the future roll out of other programs. However, this would require external funding.

#### Outcomes

The FEEP is considered a success within council. It proved a successful way of engaging a specific sector of the community on greenhouse and climate change issues. Actions undertaken resulted in greater savings of CO<sub>2</sub> than anticipated. Even though the project has been completed for some time, and council is no longer promoting it, FEEP still generates interest in the community and from councils across Victoria.

#### Future Directions of the Initiative

Corangamite Shire Council does not plan to continue FEEP as a formal program of council because of resource limitations. However, council is continuing to provide information kits and workbooks to interested landholders who want to address the greenhouse emissions from their properties. Council has also committed to share information on the program with other councils and

organisations as FEEP is considered a worthwhile and successful initiative.

### Lessons Learnt

Corangamite Shire Council has learnt a number of lessons from the development and delivery of FEEP:

- it is helpful to the program to have an officer who can meet with landholders to discuss the project and issues associated with climate change. This face-to-face approach can help ensure clarity about program objectives and generate greater interest and involvement in the scheme;
- having high quality information packages and workbooks facilitates improved recording of information from participants, in part because the formality of a workbook creates an expectation to record activities and outcomes. The first set of information packages developed by council were not of a sufficient quality and were not responded to by participants with the same success as later packages;
- farming is often made up of mixed enterprises which can rely on a combination of calculators to determine emissions from a property. In some cases council went back to the Greenhouse CRC to develop additional spreadsheets to meet this need. One way to overcome this in future programs would be to refine the target audience to participants whose enterprises reflect currently available calculators; or to work with the Greenhouse CRC to develop other calculators before the program commences;
- the project officer in charge of FEEP was employed on a part-time basis. It may have been advantageous to have a full time officer to service a larger number of landholders and further promote the program; and
- council can only take a program like this so far. It would be beneficial to have a partnership with an external organisation that would actively contribute to or manage the program in the long term.

### Key Steps to Develop a Similar Project

The following are key steps to assist other councils interested in developing a similar project in the future:

1. try to identify relevant organisations that could partner the project at the beginning. This can help to ensure the project is relevant to the audience you are targeting, can help to promote the project to as many land holders as possible and encourage participation in the scheme; and
2. ensure you have an information package fully developed before launching the project and embarking on participation of the farming community. It may be worth piloting a workbook with a number of landholders to ensure workability and inclusion of all relevant material. This way it does not have to be refined during the project period and means all landholders are working from a standard set of spreadsheets and other information.

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# Port Fairy Small Business Energy Efficiency Program

## Moyne Shire Council

### Summary

The Port Fairy Energise Business program explores the use of energy performance contracts to deliver and fund energy audits and retrofits for small business.

### Snapshot of Council



**Size:** 5,479 sq km

**Location:** The Shire of Moyne is situated in the Great South Coast Region of Victoria, fronting approximately 80 km of the Southern Ocean coastline, stretching from Peterborough in the east to approximately 35 km west of Port Fairy.

**Population:** 15,851 (2004)

**Rate Revenue:** 8,102,000 (2004)

**Natural Features:** The shire's significant coastal assets are contrasted by an agricultural landscape including grazing and horticultural enterprises.

**Available Resources for Environment Management:**

Moyne Shire Council has two full time staff members (Sustainability Officer and Environment Officer) dedicated to environment issues.

**Partnerships for a broad range of environment issues:** Moyne Shire Council has entered into a range of partnerships to progress environmental issues including the South West Sustainability Partnership, State Government agencies such as DSE, DPI and Parks Victoria, the Western Coastal Board, local community groups and ICLEI. Council also actively participates on a range of steering committees for various environmental initiatives from waste to coastal management. Additionally the council is a signatory to the Victorian Local Sustainability Accord and is one of five pilot councils developing local priority statements under this initiative.

### Port Fairy Energise Business

The Port Fairy Energise Business program is the first project of its kind to be undertaken in Australia. A key element of the pilot project is to explore the use of energy performance contracting or a similar model for the delivery and funding of energy audits and retrofits for small businesses. This was to be achieved by engaging a "critical mass" of participants (in this case 40) from one community.

The Energy Performance Contract (EPC) is a contract between the business and energy services provider. Council and other parties are not signatories to the contracts. The streamlined EPC is an educational tool outlining all areas the business needs to be aware of when entering the contract. In addition each business will receive a tailored and detailed proposal with the business case for implementation. Council appointed an energy consultancy to work on the project in partnership with small businesses, the community and other

relevant stakeholders to develop the tools specified above.

Through this initiative processes have been put in place to ensure the savings outlined in each contract are delivered. For example, an audit of the contract recommendations is undertaken after 12 months. If it is identified that savings have not been achieved the energy service provider is required to take action to rectify the situation at their own cost. If the savings cannot be secured the contracts have a clause to ensure a full refund to the participating business.

The council chose to focus the project at Port Fairy because it is the largest population centre in the municipality with a diversity of business types, increasing the chances of getting the required number of participants. Additionally, the town is highly marketable and is well known for its strong tourism economy.

The project is being delivered through an innovative partnership arrangement involving the Council, ICLEI, DSE and the South West Sustainability Partnership.

The program achieved the full quota of participants, i.e. 40 business registrations. This included registrations from hotels, apartments, motels, bed and breakfasts, restaurants, health services, legal practitioners, food processing, retail shops, stone processors, caravan parks, hostels, the health and beauty industry, the travel industry and live seafood storage operation.

### Drivers for Council Involvement

The catalyst for the Port Fairy Energise Business program was the 2005 Victorian Greenhouse Strategy Action Plan. One of the key actions from the Plan was the allocation of funding to develop a small business regional partnership pilot program in Victoria's south-west focussed on energy efficiency improvements.

Moyne Shire Council's enthusiasm to be involved in the Port Fairy Energise Business program was driven by its public commitment to sustainability and reduction in greenhouse gas emissions in council operations and the wider community. This commitment has been demonstrated through other initiatives such as:

- signing up to CCP's Rural Victoria Program in 2002 and becoming the first ever council to have reached Milestone 5 of this program in April 2006, which was followed by joining CCPR Plus Program. To date council has been able to reduce its emissions by 133 tonnes;
- formal adoption of the Moyne Shire Council Environmental Sustainability Strategy in July 2005;
- appointment of a full-time Sustainability Officer in November 2005; and
- becoming one of five councils to participate in the State Government Pilot Project (initiated in November 2005) to further develop the Victorian Local Sustainability Accord processes for the State, and adoption of the Local Environmental Sustainability Priority Statement for Moyne Shire Council in August 2006.

Involvement in the Port Fairy Energise Business program was seen by council as a way to

continue to implement corporate and community actions that contribute to council's reduction goal (i.e. 20% reduction in community emissions by 2010) and to play an appropriate advocacy role for CCP in the local community and other forums.

Moyne Shire Council recognises the need for local government to be involved in greenhouse gas mitigation and climate change adaptation. It has taken the view that council has a responsibility to manage emissions from its own operations as well as facilitating community action.

Being a coastal council there is a growing awareness within the organisation of the need to adapt to changes which are already occurring as a result of climate change.

### Risks to Council

Moyne Shire Council felt there were minimal risks to the organisation from being involved in this project. Council felt the biggest risk came from not being involved, as this project provided an excellent opportunity to support local businesses to reduce their greenhouse gas emissions and provide additional monetary benefits. Without council support a project such as this may be viewed with suspicion, which could reduce the uptake by business. Council involvement lent credibility to the program and gave businesses the confidence to sign up to the initiative.

### Benefits of the Initiative

The Port Fairy Energise Business program provided a range of benefits to council and the wider community.

It provided council with an opportunity to:

- demonstrate regional leadership by piloting a new initiative;
- assist local businesses to reduce their greenhouse gas emissions while at the same time providing an economic development opportunity;
- improve community awareness of the benefits of energy efficiency and communicate energy efficiency as an investment in the business rather than an added cost i.e. an implementation project with a payback of 2 years is actually an investment that returns 50% each year;
- improve skill levels of local tradespersons in energy efficiency installations; and
- assist a locally based energy consultancy

team.

The Port Fairy business community benefited from:

- specialist energy audits/assessments performed by a private energy consultancy and reports at a significantly subsidised cost (\$100 for a service which would normally cost about \$1,000);
- specific energy efficiency recommendations tailored to their business;
- local, state and national exposure as a participant in an Australian first program;
- networking opportunities with other businesses, government authorities and private enterprise;
- an opportunity to promote their business as committed to reducing greenhouse gases and helping the environment; and
- the chance to reduce their business's energy consumption and in turn saving money (on average 20 – 30% with some achieving 50% savings in annual energy costs).

## Implementation

### Development

Staff did not provide a formal report to Council on the Port Fairy Energise Business Program as it did not require any council funds for its operation. However, it may have been advantageous to provide Council with a report on the project, its benefits to the organisation and local businesses and its relationship to council policy and programs as there are varying levels of awareness of the initiative within Council. In the future Council will be receiving reports on the outcomes of the program following the audit stage.

### Resources

Council received \$40,000 through the Victorian Greenhouse Strategy Action Plan Update for the project. This funding allowed for either the engagement of a local consultancy with skills in marketing and communications to assist with project development and delivery or for council to employ a short term project manager to undertake this. Council opted to engage a local consulting firm as they had the range of skills required to deliver the technical and marketing aspects of the program.

The project required some investment of council staff time, approximately 150-200 hours to date.

The majority of staff activity occurred in the early stages of project development when a staff member visited business to gauge interest in the project and to scope the project. A small amount of time was also required to engage the consulting company.

### Links to Other Programs

This initiative is supported by a range of council actions and policies, including the Council Plan, Local Environmental Sustainability Priority Statement for Moyne Shire Council (initiative of the Victorian Local Sustainability Accord) and the Shire's Environmental Sustainability Strategy, which aims to reduce council and the community's greenhouse gas emissions; reduce energy consumption and utilise renewable and alternative energy sources; use transport more efficiently and plan for potential future climate change.

In addition the program also compliments a range of national and state greenhouse policies including the National Greenhouse Strategy and the Victorian Greenhouse Strategy and related Action Plan.

A project such as this can be delivered by one staff member. However, it would benefit from a collaborative approach across council, for example between the environment and economic development departments, as the project has both environmental and economic benefits, the latter being important to convey to business.

### Partnerships

The project is being delivered through an innovative partnership arrangement involving council, ICLEI, DSE, the South West Sustainability Partnership and local businesses. These were existing partnerships that had been formed to progress a range of environmental initiatives across the municipality and the region. Council is committed to maintaining these partnerships through on-going communications and program support as it encourages sharing of resources and experiences.

### Monitoring and Review

Monitoring and review of the energy performance of each business involved in the initiative is a key component of the program. Site visits are carried out to determine current level of greenhouse gas emissions and opportunities for improvement. This

is then compiled into a report detailing a range of recommendations which is provided to council.

These site visits are carried out by an independent audit team usually consisting of one mechanical engineer and one electrical engineer.

From the information collected through the site visits each participating business is provided with a proposed Energy Performance Contract to help manage their energy consumption and greenhouse gas emissions.

### Outcomes

While this project is yet to be completed it is considered a success within council and the wider community. The organisation has received extremely positive feedback from participants to date and it is achieving its objectives at this stage. Its overall success will be easy to determine following the completion of the audit stage of the project.

### Future Directions of the Initiative

In the short term the program has two more educational forums to deliver covering:

- the business case for energy efficiency;
- energy management in business and the rising cost to business;
- the individually tailored energy performance contracts; and
- the implementation recommendations (including behavioural change).

Once the energy management contracts are entered into, the Energy Services Company (ESC) will project manage the implementation of each of the recommendations into each business.

Longer term plans will be determined following the outcomes of the audit stage of the project. These may include:

- rolling the project out to other townships across the shire. However, council will need to consider how attractive this would be to an ESC due to economies of scale such as township size and business diversity, which will have an effect on the savings that can be generated;
- development of a state-wide program delivered at the state level, based on the experience and outcomes of the Port Fairy

pilot program; and

- ICLEI has an interest in using the model to deliver programs in Victoria and New Zealand, building on the experiences of the pilot program.

### Lessons Learnt

Moyness Shire Council has learnt a number of lessons from involvement in the Port Fairy Energise Business Program. These include:

- to be successful an initiative such as this requires an investment of time in the early stages to scope an effective and worthwhile project and to ensure adequate engagement of local businesses;
- the project is not just about negotiating energy performance contracts; a large component needs to be focussed on how to generate savings through retrofitting. Therefore it is important to use language that is non-technical and can be easily understood by all businesses, council staff and the consultants to avoid any confusion; and
- it can take time to fully understand the different contracts that can be used in a project. It is important to make these contracts as simple as possible to ensure the program is not onerous on business. It is also advantageous to include clauses that protect the business should the agreed savings not be met. This will encourage business confidence in the program and help to achieve greater sign-up.

### Key Steps to Develop a Similar Initiative

The following are key steps to assist other councils interested in developing a similar project in the future:

1. it is important to thoroughly scope the project including its aims and objectives and the level of interest in the business community;
2. prepare a detailed report to Council to ensure awareness of the initiative and an understanding of what it involves, the commitment required from council, benefits to the organisation and the wider community, links to council policy and programs as well as information on the content of the contracts; and
3. undertake a community awareness campaign. Be sure to market councils involvement and/

or support for the program as this can overcome any scepticism in the community and encourage greater commitment from local businesses.

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# Sustainable Transport Darebin City Council

## Summary

Darebin City Council has established a range of sustainable transport programs to provide multiple benefits to the organisation, community and environment. The programs are helping council and the community to reduce consumption of non-renewable resources and greenhouse gas emissions while at the same time assisting in the management of transport issues within the municipality.

## Snapshot of the Council



**Size:** 51 sq km

**Location:** The City of Darebin stretches from Melbourne's inner northern suburbs of Northcote and Fairfield to the middle ring suburbs of Reservoir and Bundoora.

**Population:** 127,521 (2004)

**Rate Revenue:** \$51,697,000 (2004)

**Natural Features:** Bordered by the Darebin and Merri Creeks, the City of Darebin contains a diverse range of open spaces, ranging from small, local parks up to major regional parklands such as the All Nations Park in Northcote and Bundoora Park in Bundoora. Added to these are environmentally sensitive areas such as the Central Creek Grasslands, the Wildlife reserve at La Trobe University and the Leamington Street Wetlands.

**Available Resources for Environment Management:** Council has seven staff devoted to environment issues and a further two who work on sustainable transport initiatives.

**Partnerships for a broad range of environment issues:** Council has established partnerships with a number of organisations including state agencies, public transport authorities, local businesses, local volunteer/community groups, education providers, the Northern Alliance for Greenhouse Action and neighbouring councils.

## Sustainable Transport Initiatives

Darebin City Council has taken strong leadership in the promotion and adoption of Sustainable Transport and Travel Demand Management programs, and council is committed to:

- promoting sustainable transport;
- improving accessibility; and
- working across council and the community to achieve behavioural change.

In 2000, "Going Places: the Darebin Integrated Travel Plan" was developed. The Integrated Travel Plan forms the overarching policy document for transport and land use planning in the municipality. One of the focal points of the plan is to reduce reliance on the car and ensure safe and easy transport access to all members of the community. The plan is a guide for all decisions affecting travel and transport planning within the municipality.

The Darebin Integrated Travel Plan led to the development of a number of additional strategies relating to specific elements of transport planning. These include reducing the number of car trips by staff, local businesses and residents.

Council's Green Travel Plan focuses on transport usage by staff with a view to leading by example within the local community. The plan aims to encourage, promote and support the use of sustainable transport, for commuting to and from work, and for business travel. The Green Travel Plan aims to reduce staff car drivers to 70% of staff by 2005 and to 50% by 2008. These figures were set in 2001, based on the implementation of all initiatives in council's integrated travel plan.

Additional aims are to reduce the use of the motor vehicle for business travel and visitor trips to council. Council is well on the way to meeting

these targets with the 2005 staff travel survey identifying a reduction of 15% over four years in staff car drivers (currently at 65% of all staff). This is helping council to reduce consumption of non-renewable resources and greenhouse gas emissions as well as assisting in managing transport issues within the municipality.

In addition to the Green Travel Plan, Darebin City Council is undertaking a range of programs to encourage businesses and residents to use more sustainable forms of transport. This is being achieved through information provision, schools and other education opportunities, dedicated projects and offering a range of incentives. One example is the Going Places Program. This travel rewards program was launched in late February 2006. It allows residents to register and log trips that enable them to meet their pledge of taking two less drive-alone trips per week. Council offers a range of incentives to encourage residents to join the program including weekly random prizes, member only events, a local shopping discount card and a message system that allows communication on-line between members. To date 316 residents have signed on to Going Places. Their efforts have resulted in the saving of 19,441 kg of greenhouse gas emissions and 6,303 litres of petrol.

Further information on the program is available at: <http://www.goingplaces.darebin.vic.gov.au>.

Further information on other sustainable transport programs is available at: <http://www.darebin.vic.gov.au/travel>

### Drivers for Sustainable Transport Initiatives

The Integrated Travel Plan was developed as an overarching transport plan for the municipality. The focus on managing cars and providing for alternative transport modes was a result of a forward thinking Council and a team with significant international experience who developed the Plan.

As council has direct responsibility for the provision of walking and cycling paths, the focus on sustainable transport related programs was seen as one way to address residents' concerns and provide alternatives to car travel.

The implementation of council's sustainable transport initiatives is considered important for the

organisation. Council has made a commitment to the delivery of a range of programs and of staff to oversee this within council's budget. In addition it is seen as another way to deliver a range of council policies in other business areas such as environment. Council is able to address issues relating to climate change and pollution, and health, safety and amenity.

### Risks to Council

There were a number of risks to council from pursuing the sustainable transport focus. Darebin City Council was one of the first Victorian councils to develop a Green Travel Plan; therefore the organisation was unable to draw on the experiences and lesson learnt by other councils. To overcome the unknown council looked to overseas experiences, particularly in Europe, notably the United Kingdom.

Council tested behavioural change programs internally to identify and address any potential delivery problems prior to rolling out a number of programs to the community. By actively addressing internal transport issues council gained credibility within the community, this has assisted in the delivery of community programs.

Even though residents had expressed a desire for council to address transport issues across the municipality there was a risk the Plan could be rejected by residents. Council actively addressed this risk by undertaking an extensive marketing and awareness raising campaign and by providing opportunities for community input to the Strategy's development.

### Benefits of the Initiative

There are a range of benefits to council and the community from the delivery of a variety of sustainable transport initiatives.

- Reducing staff and residence reliance on car travel reduces consumption of non-renewable resources which has environmental benefits including reduced pollution and greenhouse gas emission. This in turn will help to reduce the impacts of climate change at a local national and international level;
- encouraging walking and cycling has a range of health benefits for all participants. Additionally a number of council's programs which focus on cycling or walking have the benefit of creating a sense of connection to

- the local area and community;
- council's activities have helped increase the mobility options for its residents;
- working with residents and local businesses has helped council to improve its relationships with the local community. These relationships provide residents with access to council staff and give them a positive experience of council. Council benefits from being able to support its residents; and
- by working together council and the community have access to each other's skills, expertise and ideas which can lead to the development of innovative programs of benefit to council, its residents and the wider community.

## Implementation

### Development

The vision for council's transport activities are set out in the Integrated Travel Plan (ITP). Final endorsement by Council for the plan was given in 2001. Since 2001 the council has received annual progress reports on the implementation of the actions outlined in the ITP. The Executive Management Team has received annual reports on the Green Travel Plan and for the last two years Council has received a report on all sustainable transport activities.

Over the past five years council has implemented the majority of actions outlined in the ITP. As such Darebin is in the process of developing an updated strategy which sets out a 10-year vision for council's integrated transport strategies and actions into the future. Council will be heavily involved in this review, receiving updates and a final report prior to endorsement of the renewed strategy.

### Resources

Implementation of Council's sustainable transport initiatives has required a full-time staff member as well as council funding and financial contributions from various State Government grant programs. Many of the programs being implemented have dedicated budgets within the Council budget, including:

- \$10,000 for the Green Travel Program;
- \$40,000 for travel behavioural change programs; and
- \$30,000 for public transport programs.

### Links to Other Programs

The Integrated Travel Plan, and the sustainable transport programs implemented as part of this, gives consideration to a number of other council documents such as the Council Plan, Open Space Strategy, Darebin City Council Planning Scheme, Environment Strategy and Greenhouse Action Plan. Additionally it is also complementary to a number of external policies including Melbourne 2030 and various state transport strategies.

Successful implementation of sustainable transport initiatives requires a cross-organisational commitment. However, it is advantageous to have an officer dedicated to their delivery to ensure consistent integration of policies and actions across the organisation. This staff member can also ensure engagement of all staff across council.

### Partnerships

Council has drawn on a variety of partnerships to implement their sustainable transport program. These partnerships have included:

- state agencies (such as DSE and DOI);
- public transport providers (Yarra Trams, Metlink, Connex);
- private companies (including Go Get Car Share and local businesses);
- community groups (such as Bike Users Group); and
- education providers (including local schools, NMIT, PRACE Adult Education Centre and Latrobe University).

These partnerships are a combination of existing and new relationships between organisations. These partnerships have been maintained through ongoing dialogue between the organisations and include mutual information sharing and support.

The partnerships have assisted in the successful delivery of council's transport programs. Council has appreciated the knowledge of residents, business and state agencies which has assisted in delivering effective, tailored programs and in reaching the wider community. The partners have appreciated council's ongoing commitment to more integrated and sustainable transport options in the municipality.

## Monitoring and Review

Council undertakes monitoring to assess the effectiveness of its sustainable transport activities. The scope of the monitoring programs is influenced by funding requirements and the size of the program and its budget. For each program, council staff look at its objectives and the size of the budget to determine the most appropriate level of monitoring which will provide council with useable data.

Examples of some of council's monitoring of its sustainable transport programs includes:

- an annual staff survey for the Green Travel Program. Over one-third of council staff provide responses to this survey each year. This assists in assessing the ongoing effectiveness of the program and to help evolve the program. This monitoring program has identified the following achievements:
  - a drop in car drivers to 65% at the May 2005 staff travel survey. This surpasses the target set in 2001 at the adoption of the Green Travel Plan and represents a drop of 15% from 2001;
  - steady increases in the number of staff registered for the Incentive Program, number of staff rewarded and the number of trips taken by green travel;
  - continued use of the Metcard system for business travel – including extension of the system to cater for Darebin Libraries in their business trips between libraries during the day;
  - an increase in sustainable transport use by visitors to council offices - up from 24% in 2001 to 45% and 43% respectively in surveys conducted in January and April 2004; and
- council has used university students to undertake random anecdotal surveys of participants from a variety of programs. While this methodology may not be rigorous it does provide council staff with relevant information which helps to shape further programs and tailor them to the needs of participants.

## Outcomes

Darebin City Council's sustainable transport initiatives are considered successful within council and the broader community. Over the past five years council has successfully implemented the

majority of the actions and recommendations set out in the original Green Travel Program and has implemented many community based initiatives. The challenge for the organisation is to maintain and increase the performance attained to date.

There is a commitment within council to continue to implement sustainable transport programs both internally and externally into the future. This is evidenced by the growth in staff levels devoted to these programs, with the initial officer position evolving into that of a co-ordinator level and an additional staff member employed to implement a range of activities.

In addition the sustainable transport initiatives are assisting in the delivery of a wide range of council policies including environmental initiatives (eg greenhouse gas emission reductions) and health.

## Future Directions of the Initiative

Much of Darebin City Council's future sustainable transport activities will be determined by the development of the Darebin Transport Strategy: Going Places. It is intended the new strategy will provide guidance for council activity over the next 10 years and includes the following four themes – personal responsibility, transport operations, strategic policy and land use planning.

Council also has plans to focus on sustainable transport initiatives in three key activity centres over the next three years. The scope of these projects is dependent on the success of a large grant application to the State Government's Travel Smart Program.

In the meantime council will continue to grow and evolve its current programs and develop new initiatives to help increase the amount of sustainable transport initiatives being adopted within the municipality.

## Lessons Learnt

Darebin City Council has learnt a number of lessons from developing and delivering a range of sustainable transport initiatives:

- there are many benefits from moving into new areas of operation, such as developing a focus on sustainable travel; and
- pilot programs provide council staff with a valuable opportunity to develop skills and experience prior to developing and rolling out

broad programs to the community. Starting with internal programs provides an excellent opportunity to “practice” behavioural change programs on staff. This allows council to trial innovative approaches without the worry of community expectations.

### Key Steps to Developing Sustainable Transport Initiatives

The following are a number of key steps offered to assist other councils interested in developing sustainable transport programs to deliver a range of economic, social and environmental benefits:

1. start internally with a program such as the Green Travel Plan. This is a good way to test the structure and objectives of a program before rolling it out to the community;
2. make the program vibrant and ensure it is well publicised across council. Offering incentives for activity is one way to encourage staff involvement;
3. learn from the experiences of other councils to ensure you do not waste resources re-inventing the wheel. This can be done by joining a group such as the Sustainable Transport Interest Group (STIG; <http://groups.yahoo.com/group/vicstig/>). Tailor the experiences of other councils to your municipality, community expectations and local conditions; and
4. when council has generated a good level of experience in delivering an internal sustainable transport initiative and behavioural change program and some positive outcomes have been achieved, the organisation is in a position to better deliver broader programs for the community and local businesses.

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# Revolving Resource Conservation Fund

## Nillumbik Shire Council

### Summary

Nillumbik Shire Council has established a Revolving Resource Conservation Fund to help pay for continual efficiencies in council's resource use including energy, water, waste and fuel consumption.

### Snapshot of the Council



**Size:** 430 sq km

**Location:** 25 kilometres north-east of Melbourne with the Yarra River forming its southern boundary

**Population:** 60,623

**Rate Revenue:** \$23,805,000

**Natural Features:** Being a Green Wedge council Nillumbik Shire Council is home to some important stands of remnant vegetation. Approximately three quarters of these are found on private land. There are also a number of state parks located within the municipality. These features are contrasted by incremental development and agricultural enterprises.

**Available Resources for Environment Management:** Nillumbik Shire Council has 14 staff members (including full and part time) to progress a range of environmental issues across the municipality.

**Partnerships for a broad range of environmental issues:** Nillumbik Shire Council has entered into a range of partnerships to progress environmental issues across the shire including, the Northern Alliance for Greenhouse Action (NAGA), neighbouring councils, ICLEI, Melbourne Water, DPI, Sustainable Gardening Australia, local businesses, landcare networks, Friends-of groups and local schools.

**Cooperative arrangements on a broad range of environmental issues:** The council contributes to the funding of a landcare coordinator, in partnership with Whittlesea Shire Council. Additionally, one of its councillors is a member of the Victorian Local Sustainability Advisory Committee. Council staff are a member of the NAGA steering committee and the Victorian Sustainable Public Lighting Action Group (currently Chair).

### Revolving Resource Conservation Fund

Council has established a Revolving Resource Conservation Fund to help pay for continual efficiencies in council's resource use, including energy, water, waste and fuel consumption. This program grew out of council's commitment to ICLEI's Cities for Climate Protection (CCP) program. The Fund was seen as a tool to help council achieve its greenhouse emission reduction targets.

It works by undertaking projects to reduce resource consumption and tracking the financial savings achieved through more efficient use. This is calculated annually and the amount saved each year is returned to the Fund to pay for new projects. Seed funding is required to establish the Fund. The amount and number of years that it will be provided was determined by available

resources and the costs associated with the projects proposed under the Fund. Council has provided seed funding for three years. This will probably cease within the next two years as projects funded under the scheme begin to deliver substantial financial savings to be able to sustain the Fund.

At this stage council is focusing on improving the energy consumption of its buildings as they contribute 38% of its overall greenhouse emissions. However, opportunities exist to improve the efficiency of council's fleet, streetlighting and other areas of operation.

### Drivers for Establishing the Fund

Nillumbik Shire Council has a commitment to achieving environmental conservation and enhancement across the municipality. The council

also has a desire to be seen as a leader in environmental management. The fund was seen as one way council could achieve these goals by resourcing activities to reduce the organisation's ecological footprint.

Nillumbik also has a small rate base compared to many surrounding councils and saw the fund as a way to establish funding for important projects within a council environment where resources are at a premium.

Council believes there is a shared responsibility between all levels of government and business and the community to manage greenhouse emissions and adapt to climate change. As such the organisation is currently investigating exactly where it should focus its efforts in this area. There is a clear role for council to manage the impacts from its own operations; therefore efficient resource use is seen to be core business of the organisation. Additionally, through the CCP program, council has made commitments to reduce its greenhouse emissions. However, the level of activity in this area is dependent on available resources.

In addition to reducing greenhouse emissions, council also sees a role for itself in building resilience in the community to the effects of future climate change. Council is in the early stages of exploring exactly how this can be achieved.

#### Risks to Council

Nillumbik Shire Council identified few risks to the organisation from the establishment and implementation of a Revolving Resource Conservation Fund; rather it was seen as a "win-win" situation for council as it provided a mechanism for on-going funding of projects to reduce resource consumption.

The biggest risk identified was the need for in-house knowledge and expertise to manage the program. In the past council relied on energy consultants to develop and manage energy efficiency projects. It was determined having in-house expertise would reduce project costs, assist in thorough monitoring of all projects funded through the program, build relationships across council business areas and increase opportunities to share knowledge with other staff and local trades people used by council. This would help to ensure the long-term viability of the program.

#### Benefits to Council

There are significant economic benefits to council from improved resource use. For example this financial year council is spending \$50,000 on projects with anticipated savings of \$30,000 each year following their completion.

Using resources more efficiently can also improve the management of facilities as some energy efficiency actions can reduce demand on plant, equipment or the facility, resulting in longer life spans and less maintenance requirements.

Reduced resource consumption has a range of benefits for the environment including (but not limited to) reduced pressure on dwindling resources and a reduction in greenhouse emissions, which can help to reduce the threat of climate change in the future.

Through implementation of the program council staff are building relationships across business areas, which are resulting in improved communication and collaboration.

Council is also promoting projects undertaken for the community and other councils through case studies. It is hoped this will inspire other stakeholders to be involved in greenhouse issues and look for ways to reduce their impacts.

#### Implementation

##### Development

A report to Council was required to get the Revolving Resource Conservation Fund established. This report outlined the model and how it was envisaged it would operate. It also included the findings of energy audits that had been completed on a number of council buildings and examples of projects that could be funded through the scheme, as well as examples of past projects that council had funded. Staff also included a list of other councils using a similar program to deliver energy efficiency projects.

Following the report to Council, staff have further refined the program and developed more detailed internal mechanisms to capture the financial savings achieved through the program and processes to ensure these savings are returned to the Fund. Council staff wanted to ensure this was as simple as possible. The officer in charge of the program worked with a staff member from the

finance department to determine the most appropriate process. Currently billing information and a standard set of calculations are used to establish financial savings and environmental benefits of projects.

#### Resources

Seed funding is an important component of the establishment of a Revolving Resource Conservation Fund. Since 2004/2005 Nillumbik Shire Council has contributed \$60,000 to the fund from council's budget. In addition council has received around \$6,000 from the Australian Greenhouse Office to undertake some energy efficiency projects.

Council's contribution to the Fund through energy savings is determined annually. To date the fund has received \$10,000 through energy efficiency savings. Next financial year it is anticipated around \$30,000 will be going back into the fund through a range of energy projects to be carried out this year.

#### Links to Other Programs

Environmental conservation is included in many council documents, from the Council Plan to the Environmental Strategy. The Revolving Resource Conservation Fund is a specific item included in council's Environment Strategy. The objectives of the Fund are complementary to the Victorian Greenhouse Strategy and other strategies looking to reduce consumption and increase efficiency in resource use, e.g. Melbourne 2030 and energy and water conservation programs.

It is important to have a staff member in charge of the implementation of the program; however, it is just as vital to ensure all stakeholders across council are consulted during the development of such a program and that relevant departments are involved in its delivery.

#### Partnerships

Council has called on a number of existing partnerships to develop and implement the Revolving Resource Conservation Fund. Of note has been council's partnership with the Northern Alliance for Greenhouse Action (NAGA). This partnership involves nine councils from around the region working together to reduce the threat of climate change. Through NAGA councils support each other in project identification and implementation, sharing knowledge and experience across organisations. Council maintains this relationship through ongoing participation in

meetings and involvement in project development and delivery.

Other partnerships have also contributed to the success of the Revolving Resource Conservation Fund including energy consultants and electrical, air-conditioning, plumbing and pool contractors. The contractors have been particularly helpful in identifying project costs and determining how to achieve more efficient energy usage. This partnership is supported through regular contact between the contractors and council staff.

#### Monitoring and Review

A monitoring and review component was built into the Revolving Resource Conservation Fund from the outset. This process has been refined over time as experience has increased and lessons learnt have been incorporated into the process. The process remains flexible so it can continually evolve as experience grows and technology advances.

When council decides to undertake a project, an officer calculates expected financial and environmental savings that can realistically be achieved. The officer then regularly collects energy billing data and reviews it to see if projected savings from projects are reflected in the bills.

A process to return savings to the Fund was developed by the officer in charge and the Finance Manager. Once a project is completed the actual savings are calculated using billing data. At the end of the financial year this data and the savings calculated before the projects were completed are reviewed. The project officer and finance officer then agree on the amount saved through all projects funded through the program and this is then transferred back into the fund. This process has worked to date because staff have used consistent and reliable data and an open process to determine the savings from projects.

Council was keen to ensure the process used to monitor the Fund was not complex. The current system is not resource intensive; however, it does require a commitment from several staff members to determine savings and ensure these are returned to the Fund. To date there has been a strong commitment from staff to ensure the success of this component of the program.

The Revolving Resource Conservation Fund itself is reviewed annually as part of council's budget process.

## Outcomes

While it is still a relatively new program the Revolving Resource Conservation Fund is considered successful within council, as a tool to help reduce the organisation's ecological footprint. In this relatively short period council has already saved around \$10,000 a year through improved energy efficiency, and it is anticipated much larger savings will be achieved in the next three to five years as other projects are implemented.

## Future Directions

Council is committed to the Revolving Resource Conservation Fund as a means of providing ongoing funding to reduce council's resource consumption. The organisation is keen to continue the program into the future as long as there is sustained internal support for the program. At this stage there are enough project ideas to keep the program running for at least five to ten years.

## Lessons Learnt

Nillumbik Shire Council has learnt a number of lessons from the establishment and implementation of a Revolving Resource Conservation Fund. Additionally the council benefited from the experience of the officer in charge of the program as they had been involved in a similar initiative in another Victorian council.

- It is beneficial to have in-house expertise to support the program, rather than relying on external bodies to provide that service to council. If you do not have in-house expertise it is useful to educate particular staff so that council retains knowledge and control over the program. In-house management of projects results in quick response time to questions which arise during monitoring, increased accountability and improved information sharing, which assist in the development of future projects.
- It is also beneficial to have the support of the council's financial management staff to provide another level of support to the officer and the program.
- Ensure the processes used to track savings are as simple as possible to reduce resource burdens on council staff. Work with the finance department on the most appropriate monitoring system and process to ensure

savings are put back into the fund. Onerous reporting and monitoring processes could jeopardize the long-term sustainability of the program.

- It is vital to have a staff member in charge of the program to monitor the success of projects funded under the scheme and the savings they achieved as well as working with other staff to identify and manage future projects.

## Key Steps to Setting up a Revolving Fund

The following are key steps to assist other councils interested in establishing a revolving fund to progress environmental initiatives such as energy conservation:

1. ensure the idea has support at the councillor, CEO and manager levels in council. It is also beneficial to consult with staff in other business units, especially those whose work may be affected by the fund, e.g. the finance department;
2. when putting a report to Council use specific examples of programs/projects that could be funded under such a scheme, detailing their possible savings and how they will add to the future viability of the Revolving Energy Fund. Also use examples of other councils who have similar programs in place;
3. aim to design a data capture system that is as simple as possible. The intention of the fund is not to make lots of extra work for the finance section of council;
4. it is not essential to have all the processes in place on how the program will run prior to its establishment. Have a working idea of the processes needed and engage relevant staff to refine these over time; and
5. make monitoring and review processes flexible so lessons learnt over time can be incorporated into future management of the program.

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# Using Utility Tracker to Monitor Energy Consumption Gannawarra Shire Council

## Summary

Gannawarra Shire Council is using Sustainability Victoria's Utility Tracker Program to monitor electricity and other resource consumption at all council buildings across the municipality. The program is helpful in developing targets and enabling the identification of sites where potential savings can be made.

## Snapshot of the Council



**Size:** 3736 sq km

**Location:** The Gannawarra Shire is located three hours drive north from Melbourne in the Loddon Murray region.

**Population:** 11,837 (2004)

**Rate Revenue:** \$5,578,270 (2004)

**Natural Features:** Bordered by the Murray River the Shire has a Mediterranean climate and is well endowed with natural resources which underpin its diverse agricultural and food industries. Additionally it is home to significant river red gum stands.

**Available Resources for Environment Management:** Gannawarra Shire Council has two staff members (Environmental Engineer, Landcare Coordinator) dedicated to environment issues.

**Partnerships for a broad range of environment issues:** The council has entered into a range of partnerships to progress environmental issues including the Central Victorian Greenhouse Alliance, ICLEI and local landcare groups.

**Cooperative arrangements on a broad range of environment issues:** Council's Landcare Coordinator position is joint funded between the shire and the North Central Catchment Management Authority.

## Utility Tracker

Gannawarra Shire Council has been using Utility Tracker since June 2006 to record electricity and other utility consumption at all council owned sites across the municipality.

Utility Tracker was developed by the Sustainable Energy Authority Victoria (now Sustainability Victoria) as a stand-alone MS Access based utility management application. The software assists local government to track utility accounts including, electricity, gas, water, vehicle usage and public lighting. It allows councils to monitor utility performance benchmarked data, and provides progress reporting to monitor energy savings and reductions in greenhouse pollution.

The benchmarking feature is a useful tool to assist in the development of targets and enables the identification of sites with savings potential. The aim of the benchmarking feature is to:

- provide useful and easily applied performance indicators for facilities and operations;
- identify partnership opportunities for saving energy in local government facilities;
- assist local government to use information strategically in the development of energy management plans; and
- promote dialogue between state and local government.

There is no purchase cost for using Utility Tracker. However, as a user of Utility Tracker, Sustainability Victoria requests councils to provide them with any data collected. This data is used to update the benchmark data on an annual basis.

## Drivers for the Application of Utility Tracker

Gannawarra Shire Council is committed to reducing its consumption of natural resources. Prior to June 2006 the organisation did not have a

process in place to collect data on its usage of resources such as energy and water. Through the Central Victorian Greenhouse Alliance council became aware of Utility Tracker and the benefits it was providing to neighbouring councils.

There were a range of incentives for council to begin using Utility Tracker, including:

- the software is available free of charge;
- neighbouring councils had experience with the program and had discussed the benefits it provided to their organisation;
- it provided an effective means for collecting data and generating reports on council's resource consumption; and
- it provided a tool to assist in monitoring council's progress through programs such as CCP.

Council believes it has a number of roles in the area of greenhouse gas mitigation. Firstly it sees a role to educate the community to minimise their energy consumption. Additionally it also has a role in reducing its own consumption levels and using resources more efficiently both to reduce environmental impacts of council operations and to better utilise rate revenue.

While this is not considered to be core business of council at this stage, awareness of the need to reduce greenhouse gas emissions is growing within council. As a result activity levels in this area will continue to grow into the future.

#### Risks to Council

Council considered there to be minimal risks associated with using Utility Tracker. The greatest potential risk identified was inputting of incorrect data. However, as more data is included in the program these mistakes become obvious and are easily rectified. Rather, staff saw the greatest risk to be not having a process in place to track resource consumption and assist with identifying opportunities for more efficient use of resources and expenditure of council funds.

#### Benefits of Using Utility Tracker

Using Utility Tracker provides a range of benefits to council and flow on benefits to the local community. There are no costs associated with the use of the program. It is freely available on the Sustainability Victoria website. The program is also user friendly which means after the initial set

up of information minimal staff resources are required to keep data up-to-date. Through the information collected council is able to identify sites where resource efficiency projects can be adopted, thereby reducing council expenditure.

There are obvious environmental benefits such as reduced resource consumption and reduction in greenhouse gas emissions from council operations.

There are also a range of benefits for the organisation such as an increased knowledge of council sites and improved relationships across various departments.

Over time Utility Tracker will help to encourage increased council action in the area of resource usage and electricity consumption as the organisation is able to benchmark against the performance of other councils across the state.

## Implementation

### Development

There was no need to provide Council with a formal report on the adoption of Utility Tracker as it had no purchase costs and ongoing usage of the program required minimal staff resources. The staff member using Utility Tracker made their manager aware of the program and explained its benefits in tracking council resource usage and the improved ability to provide council reports on consumption.

### Resources

Using Utility Tracker requires minimal staff resources. In the initial set up stage it took a staff member approximately two days to input all the required information about council sites and previous electricity usage. Following this it only requires a staff member to input data on a monthly basis when bills are received by council.

### Links to Other Programs

Council's activities in greenhouse gas and energy consumption reduction are supported by a number of policies and programs. Of most note is council's commitment to ICLEI's CCP program and the Central Victorian Greenhouse Alliance. Council's commitment to environmental management is highlighted in its Corporate Plan.

The data collected through Utility Tracker will help

to influence a range of council programs dealing with energy and water consumption in the future.

It is important that one staff member is responsible for ensuring data is correctly put into Utility Tracker and kept up-to-date. It is also as important to secure a commitment from the organisation to utilise the data contained in reports to ensure opportunities for more efficient resource use are identified and acted upon.

### Partnerships

The most notable partnership that has been utilised for this program is that between council and the Central Victorian Greenhouse Alliance. Through the Alliance council was made aware of the program and the benefits it provided neighbouring councils. Through the networking opportunities provided by the Alliance councils have been able to share their experiences in a range of greenhouse and climate change activities. Gannawarra Shire Council has been a member of the Alliance since its inception in 2000. Council supports this partnership through annual membership fees and officer attendance at bi-monthly meetings.

### Monitoring and Review

Council uses the data collected through the Utility Tracker program to monitor its resource consumption. Every month staff compare data with that of the previous month to monitor council performance. More comprehensive reviews are occurring every three, six and twelve months. Data obtained through this will help to monitor progress for programs such as CCP.

### Outcomes

While Gannawarra Shire Council has only been using Utility Tracker for several months it is already proving valuable in recording and monitoring the resource consumption of council sites. Through the program council staff have been able to identify discrepancies in billing data and identify sites where efficiency improvements can be made. Prior to using Utility Tracker council had no process in place to monitor energy consumption. Having this data will better enable council to reduce its greenhouse gas emissions and consumption of natural resources and to progress through CCP milestones.

### Future Directions of the Initiative

Following another six months of data entry and monitoring, council staff will be evaluating reports on energy consumption which will identify a range of sites and possible projects to reduce council's electricity consumption and greenhouse gas emissions.

Internally council staff are keen to see responsibility for inputting billing data resting with the finance department, with reports going to relevant staff across council for action.

Currently council is only focussing on electricity, water and gas consumption. Staff will be broadening this to include vehicle usage in the near future.

### Lessons Learnt

Gannawarra Shire Council has learnt a number of lessons from using Utility Tracker:

- it is important to obtain as much information as possible on council sites, historic billing data and other relevant data prior to setting up the database. While this can be time consuming initially it will save time in the long-run and will provide accurate reports which can be better utilised by the organisation;
- the software is extremely user friendly which assists in its application. For example it is easy to edit the data once it has been input, meaning that any mistakes are easily rectified; and
- it is important to make other staff aware of the program and the data collected as this can help to identify actions to reduce consumption in the future.

### Key Steps to Implementing a Similar Initiative

The following are key steps to assist other councils interested in developing a similar project in the future:

1. familiarise yourself with the program and enter as much data as available;
2. develop a relationship with council's finance department to ensure you are receiving up-to-date billing data; and

3. it is helpful to let managers know you are tracking energy consumption across council as they can facilitate the establishment of relationships across the organisation. This can help to ensure the information is being used and can help identify opportunities for savings at specific sites.

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# Energy Management in Municipal Buildings Manningham City Council

## Summary

Manningham City Council has been undertaking a range of activities over the past 15 years to reduce energy consumption at its main municipal office. Council has employed the use of a dedicated software package, Eco-Tracker, since 2004 to provide detailed information on energy consumption across the building. This information has been used to identify a range of improvements to reduce energy consumption.

## Snapshot of the Council



**Size:** 114 sq km

**Location:** Manningham City Council is located 12 kilometres east of the Melbourne CBD

**Population:** 113,920 (2004)

**Rate Revenue:** 44,005,000 (2004)

**Natural Features:** Manningham City Council has a diverse landscape. Its significant built environment is contrasted by more than 1,200 hectares of parks, gardens and reserves. In addition a number of important water ways, Yarra River, Koonung, Mullum Mullum, Andersons and Bushy Creeks, flow through the municipality. The municipality is also home to around 22% of Victoria's known plant species including 12 state significant species and three nationally significant species.

**Available Resources for Environment Management:** Council has eight staff dedicated to environmental issues. However, each of the 16 service units across council has a requirement to undertake various environmental activities for the organisation to meet the objectives of council's EMS.

**Partnerships for a broad range of environmental issues:** Council has entered into a range of partnerships to progress environmental issues including ICLEI, State government agencies, Northern Alliance for Greenhouse Action (NAGA) and neighbouring councils.

## Background on Council Activity

Council's energy management initiatives started in 1991 when it undertook its first energy audit to help identify improvements to the way it managed energy consumption. The audit focused on the municipal offices as this was the building with the largest consumption and where the greatest savings could be made. Following the audit, a number of recommendations were made to improve the energy efficiency of council's operations. One of the recommendations was to improve the Heating Ventilation and Air-Conditioning system (HVAC) to allow for variable airflow into the building.

After this, council began to track its energy use to help identify further ways to reduce energy consumption. This proved difficult as the organisation was not able to accurately identify the level of consumption of activities and equipment

across the building. To overcome this, council worked with its energy consulting firm and, in 2004, invested in sub-meters linked to the Eco-Tracker software.

Eco-Tracker collects detailed information on energy consumption from various points across the building on a real-time basis. It automatically sends an email with consumption information to designated staff each week. Council now has three years of data that can be compared to track energy consumption and savings.

Through increased access to up-to-date information, council identified a number of improvements that achieved substantial savings. These are:

- fine tuning of the HVAC system - no infrastructure costs;

- using fresh air intake when the temperature outside is around 20 degrees, rather than using air conditioning; and
- use of motion sensors linked to the HVAC system that automatically turn off the air conditioning if no one is in a room; this is helpful as staff do not have to remember to turn it off when they leave a room or know how to work the system.

The improvements made by council have achieved significant savings since the first audit was conducted in 1991. Over this time the building has increased in size from 5,000 sq m to 6,200 sq m, the number of staff and activity levels have increased and council is still reducing its energy consumption from 1991 levels.

### Drivers for Energy Management

Council's initial activities in energy auditing and increasing efficiency of their municipal offices were driven by the availability of grants from the State Electricity Commission (SEC) in 1991. In early 2000 council revisited issues of energy consumption when it was identified as a major component of the organisation's costs.

The development of the Eco Tracker software grew out of a long association with a private energy consultant and was made possible by an \$11,000 grant from the Victorian Greenhouse Strategy to develop the software.

Reducing energy consumption is considered core business of council as it directly relates to the organisation's operating budget. As such, council has a commitment to:

- reduce energy demand and greenhouse emissions;
- support the development of renewable energy;
- demonstrate leadership in the community; and
- support the development of new technology.

These principles are supported in the Council Plan and the organisation's Energy Plan, as well as its overarching Sustainability Policy.

### Risks to Council

Manningham City Council felt that not being involved in energy management activities was a

risk to the organisation and its reputation. Without being active in its own energy management, council would not have the credibility to influence energy saving activities in the local community and businesses.

### Benefits to Council

There have been a number of benefits to council and the community from their energy efficiency programs:

- reduced consumption has meant council has been able to save money, which has in turn allowed for a more beneficial use of council's rate revenue;
- the reduction in resource use and greenhouse gas emissions has an ongoing benefit to the global and local environment;
- council has access to improved information on energy consumption which helps to raise awareness of issues associated with efficient energy usage;
- increased activity in the reduction of energy consumed is improving the skills and expertise of staff, e.g. environment officers now have an increased understanding of how a building operates and how this affects the production of greenhouse gases; and
- council is employing its skills and expertise in this area to increase the awareness of developers and improving the energy efficiency of buildings being constructed across the municipality.

### Implementation

#### Development

A report on the findings of the original audit was tabled to Council in 1991. The key messages in this report were:

- by decreasing energy consumption council could reduce costs and pressures on its operational budget;
- for a capital investment of \$100,000 (\$40,000 of which was council contribution) council could undertake works which would provide an ongoing cost reduction of \$43,000 per year; and
- there was an opportunity to access significant funding from the SEC.

From time to time other reports are sent to Council on energy consumption reduction activities and

greenhouse gas savings. These reports are primarily information updates and contain information on capital costs, payback periods and greenhouse emission reductions. They are used to encourage continued support from Council.

#### Resources

In 1991 council received a \$60,000 grant from the SEC. A further contribution of \$40,000 from council allowed the implementation of a range of energy efficiency activities. This initial investment had a payback period of less than one year. Since then council has invested varying amounts of money to reduce energy consumption at its municipal offices. The organisation has a policy of 20% return on investment, i.e. a payback period of five years.

No additional staff have been required to undertake or monitor works; however, consultants are engaged when in-house expertise is not available.

The Eco-Tracker software costs \$100 per month; however, Manningham City Council pays \$500 per month for Eco-Tracker and consulting services from an energy management consulting company. Council can now monitor consumption across the main building on a real-time basis. This means it is able to respond quickly to consumption that is outside normal patterns and are able to identify necessary improvements to activities or equipment.

#### Links to Other Programs

Improved energy management is supported by a range of council policies including the Council Plan, Asset Refurbishment and Rehabilitation Strategy, Doncaster Hill Strategy and council's design guidelines which are provided to architects designing council buildings. It is also complementary to a number of State policies including the Victorian Greenhouse Strategy and key objectives in Melbourne 2030.

#### Partnerships

An essential element in improving council's ongoing energy management practice has been the long-term productive partnership with its external energy consultant.

#### Monitoring and Review

Eco-Tracker assists council in monitoring and reviewing energy consumption. This is not complex or resource intensive for staff. Once a

week, the program automatically sends designated staff members an email detailing energy consumption levels for the week, the week prior and the same period in the previous year.

Because Eco-Tracker records consumption on a real-time basis it provides more accurate information than provided by billing data and can be used to check the accuracy of electricity accounts and actual usage.

Using information provided by Eco-Tracker, an annual report on energy consumption and greenhouse emissions is presented to Council for review.

#### Outcomes

Council's energy smart activities and the use of the Eco-Tracker software have significantly reduced its energy consumption and consequent production of greenhouse gases over a number of years.

#### Future Directions

Council is planning to build on its current energy management activities, including improvements to the way it reports to Council and the data presented in these reports.

Currently the Environmental Planning Unit provides an annual report to Council on financial and greenhouse gas savings achieved through energy reduction activities. Staff are looking at ways to increase the frequency of these reports to provide more up-to-date information to the organisation. Additionally, officers believe they have not used the data obtained through the Eco-Tracker system to its full potential, and are constantly learning how to better present data so it can be easily understood by the organisation.

Staff are also exploring improved ways to accurately capture how energy is being used in the building. They are grappling with how to record and present more complicated issues of the cumulative impacts of energy reduction actions, e.g. how do you reflect energy consumption savings relative to increases in staff numbers, operational times or the size of the building?

In the future council would like to move to a more automatic process to fund energy reduction activities that have a significant return and/or payback period, such as a Revolving Energy Fund

where savings made are put in a fund to provide continual funding for future consumption reduction activities.

### Lessons Learnt

Council has learnt a number of lessons through its involvement in energy management and reporting:

- “you can’t manage what you can’t measure”; it is difficult to identify energy saving opportunities if you do not have reliable data on which to base your decisions;
- review the data you have; identify opportunities to make improvements and have a process to implement identified actions;
- look for other ways to collect and report data to Council; do not rely on billing data as this can be inaccurate; access to up-to-date and accurate data can help convince decision makers of the need for action;
- if you have smart metering it is easier to identify opportunities to control and manage consumption in various building areas and operations;
- put in place processes that can be continually refined over time to allow for the easy incorporation of technological advances into council operations; and
- by managing its own building, council has learnt what can be applied to future council and private buildings. The organisation has demonstrated the success of the measures employed and are now in a position to work with developers and other private enterprises to improve the energy efficiency of buildings in the municipality. The use of smart metering has also been useful to tenants in council buildings to help manage their energy consumption.

### Key Steps to Developing a Similar Initiative

The following are a number of key steps to assist other councils interested in using technology to assist in the reduction of their energy consumption.

1. Begin by identifying the current level of energy consumption by council;
2. using this information identify opportunities to reduce consumption and the most appropriate way to spend capital to achieve reductions;
3. in the first instance focus activities on a council building of considerable size as this is where greatest benefit from action can be achieved; and
4. employ a technology that is going to assist council to monitor consumption and savings achieved while at the same time meeting the specific needs of the organisation.

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# Incorporating Greenhouse Considerations into a New Council Building Melbourne City Council

## Summary

Melbourne City Council's new office building, Council House 2, incorporates a range of environmental features to reduce the organisation's ecological footprint. The building has sustainable technologies incorporated into every aspect of its 10 storeys.

## Snapshot of the Council



**Location:** Southern Victoria at the apex of Port Phillip Bay.

**Size:** 36.5 sq km

**Population:** 65,000

**Rate revenue:** \$119,191,000

**Natural features:** Melbourne has three major water-courses: the Yarra River, Maribyrnong River and Moonee Ponds Creek. There are 507ha of parkland, including the 188ha Royal Park which contains a small parcel of remnant grasses.

**Available resources for Environment Management:** City of Melbourne has a full time equivalent of nine staff dedicated to environmental initiatives. Staff undertake activities that cover a range of issues, including sustainable water management, greenhouse abatement, waste management, and community sustainability initiatives for residents and business.

**Partnerships for a broad range of environment issues:** The City of Melbourne has entered partnerships with the following groups: Melbourne Water, Sustainable Melbourne Fund, ICLEI, City West Water, South East Water, Origin Energy, Sustainability Victoria, ECO-Buy, VECCI, United Nations Global Compact, Waterwatch, Green Plumbers, Sustainable Gardening Australia, local community groups and business groups.

## Council House 2

Melbourne City Council's Council House 2 (CH2) is a visionary new building with the potential to change the approach to ecologically sustainable design. The 10-storey office building houses approximately 540 council staff. Construction on the building began in 2004 and was completed in October 2006.

The CH2 project is the first in Australia to achieve the six Green Star certified rating, where the minimum rating is one star and the maximum is six. This achievement is also significant as the design for the project started prior to the launch of the Green Star Rating System.

CH2 has sustainable technologies incorporated into every conceivable part of its 10 storeys. Features of CH2 include:

- a water mining plant that will deliver 100,000 litres of recycled water per day;

- thermal storage batteries of phase change materials (PCMs) will be used to capture cool conditions at night for use during the day for office cooling;
- evaporative cooling in the form of 'shower towers' on the building's façade;
- 100% fresh air changes every two hours, supplied from the floor and exhausted from the ceiling. There is no recycling of used air and no mixing of fresh and used air;
- 'night flushing' of the building, allowing cooler night air to remove heat from the ceilings' concrete surfaces via high level windows which will automatically open when the external air temperature falls below the temperature of the ceilings;
- chilled ceilings that radiate 'coolth' rather than provide chilled air to the human body;
- vaulted concrete ceilings that will improve air circulation, cooling and natural light;

- a façade of louvers (powered by photo voltaic cells) that will track the sun to shade the Western side of the building;
- roof mounted wind turbines to draw hot air out of the building; and
- a gas-fired cogeneration plant to generate electricity and heat, reducing reliance on the public electricity grid. Heat from the cogeneration plant will be used to assist the building's air-conditioning plant.

Although most of the principles adopted in the building are not new – using thermal mass for cooling, using plants to filter the light – never before in Australia have they been used in such a comprehensive, interrelated fashion in an office building.

CH2 sets a new standard for how buildings can deliver financial, social and environmental rewards. The Green Building Council of Australia awarded CH2 six Green Stars which represents world leadership in office building design.

In terms of energy consumption and greenhouse gas emissions it is estimated that CH2 will consume 85% less electricity and 93% less gas than Council's previous building. This means that CH2 will use only 13% of the total energy consumption of the previous building. Additionally, CH2 will produce 60% less emissions than that scored by a top rating 5-star building and one fifth of the emissions of the previous building.

### Drivers for Project Development

The City of Melbourne decided to embark on the project when faced with the pressing need for office space and the desire to breathe life into an under-used section of the city directly opposite the Melbourne Town Hall.

Rather than build a regular office building, the council took the opportunity to put its environmental credentials into action with a building that would be innovative, creative, technologically advanced, environmentally sustainable and financially responsible, while setting an example for others to copy.

Additionally, council had a desire to create a healthy building for its employees with access to

clean, fresh air and non-toxic finishes which would help staff stay healthy, alert and effective at work.

The Melbourne City Council Corporate Plan outlines council's role in greenhouse gas mitigation. This includes reducing emissions, promoting renewable energy and maintaining air quality across the city. Actions to achieve this include:

- pursuing the reduction of greenhouse gas emissions, particularly from commercial and industrial properties;
- improving the energy efficiency of the council's operations and reduce greenhouse gas emissions generated through its activities;
- encouraging council and community uptake of renewable energy; and
- developing and maintaining partnerships with agencies to manage air quality and advocate for ongoing air-quality monitoring by the EPA.

### Risks to Council from Project Delivery

The risks were those normally associated with any major capital works development, such as costs to council for delays in the project, plus those associated with alternative technologies, both in terms of cost and in performance.

A detailed risk management process was put in place at an early stage. The process was facilitated by a specialist risk management consultant. Key areas of risk management were the selection of contractor, type of contract, and ensuring that those tendered were well briefed on the project and costed the building competitively.

### Benefits of the Initiative

CH2 is providing Melbourne City Council with a range of economic, social and environmental benefits.

It is estimated that in ten years time the sustainability features will have paid for themselves. Reduction in resource consumption such as energy and water will provide substantial cost savings for the organisation. While these savings are significant, council expects the greatest economic benefit will be an increase in productivity, reduced absenteeism and lower staff turnover rates, which can cost employers millions of dollars each year. Studies have shown that improved air conditioning systems, such as that

used in CH2, can achieve a 4.9% increase in productivity, in part through reduced sick leave. It is predicted this will save council up to \$1.12 million each year.

In addition to the economic benefits, CH2 provides a range of social benefits to staff including improved health and well being through building features that improve air quality and facilitate healthy lifestyles (e.g. 80 bike spaces and showers for staff). Working in a green building can also foster a sense of pride in the workplace as staff members are reducing their ecological footprints and helping to create a more sustainable future for the planet.

There are obvious environmental benefits from CH2. These include reduced consumption of precious non-renewable resources, reduction in the use of toxic substances, less water consumption and reduced greenhouse gas emissions. These are helping to reduce pressure on the earth's limited resources.

The project has led to greater collaboration across council business areas as it required the expertise of staff from a variety of disciplines to ensure that economic, social and environmental considerations were incorporated into the overall design and function of the building. It has also resulted in improved relationships between council and external organisations as council shares its experience and knowledge to help facilitate the development of further sustainable buildings.

## Implementation

### Project Development

To make this building a success council assembled a team of experts from around Australia and beyond. The team included the City of Melbourne (principle responsibilities for design and project management) and external organisations with expertise in architectural design, engineering, environmental technologies, acoustics, surveying and construction. The design process began with the project team attending a two week workshop, followed by weekly design meetings that ran for eight months to ensure a truly collaborative effort.

As the construction of a sustainable building is a large job requiring expertise across a range of business areas, it is beneficial to have an internal

team managing the project, ensuring all aspects of economic, social and environmental considerations are incorporated into the design and construction of the building.

### Resources

The total cost of the project was \$51.045 million. This figure includes the development of the Little Collins Street precinct (including CH2), roadwork, upgrades to other buildings, professional fees, relocation costs, fit-out, art costs, footpaths, landscaping and other costs.

Costs associated with the building itself include:

- \$29.9 million for the base building (2,334\$/m<sup>2</sup> or 58.5% of cost).
- \$11.3 million for sustainability features including a portion of the building cost of purge windows, light harvesting devices, pre-cast ceilings, timber shutters, pre-cast exhaust ducts, solar hot water collectors, photovoltaic cells, chilled water cooling system, shading screens, co-generation plant, air conditioning and beams and slabs. (884\$/m<sup>2</sup> or 22.1% of cost).
- \$2.8 million on education and demonstration including a portion of the cost of shower towers, multi-use water treatment plant, PCM modules, roof landscaping, and chilled ceiling panels/beams. (218\$/m<sup>2</sup> or 5.5% of cost).
- \$7.1 million on requirements specific to council use including a portion of the cost of vertical landscape, balconies, access floors, lift finishes, communication cabling, stand-by generator, security system and building automation system. (553\$/m<sup>2</sup> or 13.9% of cost).

While these costs are substantial it is estimated the sustainability features of the building will have paid for themselves in 10 years, even less when you factor in other considerations such as improved health of staff, increased productivity and workplace effectiveness.

### Links to Other Programs

The design and construction of CH2 was informed by a range of council policy and programs including:

- the Council Plan, which outlines the organisation's commitment to reducing

- greenhouse gas emissions and developing a green building;
- council's Zero Net Emissions by 2020 Strategy which aims to guide council, businesses, industry and residents toward the ultimate goal of zero (net) greenhouse gas emissions by 2020;
- council's Cities for Climate Protection program activities;
- the Sustainable Melbourne Fund which seeks to invest in projects that enhance the environment and deliver economic benefits for the people of Melbourne; and
- council's activities in green purchasing and as a member of Eco-Buy.

The project is also complimentary to a range of State Government policies such as Melbourne 2030, the Victorian Greenhouse Strategy and Our Water, Our Future.

### Partnerships

In addition to the experts engaged by council in the design and construction of the building, the organisation also worked with artists on conceptual matters and federal and state agencies and research organisations to share experiences and lessons learnt.

Before construction began artists were formally selected through an expression of interest process. Artists worked closely with architects to find opportunities within the building to artistically express its processes and relationship to the environment. Seeking the advice of artists from the outset meant their expertise could be integrated with construction, rather than an add-on, which resulted in less problems and expense at later stages. Using artistic expertise has meant the building has become an integral part of the artistic vibrancy of the city.

Council is also working with a number of tertiary research institutions, a range of state and federal agencies and industry organisations to document council's experience from the design and construction of CH2. Areas being examined include design, development and construction, identification and development of productivity measures, evaluation of the building and workplace practices. This information will assist council with its monitoring and evaluation

programs and will provide useful guidance to other organisations looking to construct or constructing a green building.

### Monitoring and Review

Monitoring and review were built into the project at the outset, through the inclusion of over 2,000 sensors in the building and the purchase of software needed to produce trending data. Much of the technical information necessary for the monitoring and review is computer-generated from the building automation system (BAS). Although much of the data is able to be assessed by in-house staff, some is evaluated by the specialist consultants. Other data, such as workplace productivity, is obtained by qualitative processes and is also being assessed by specialist consultants.

A comprehensive evaluation process has been established and is being carried out. This includes a post-occupancy review of workplace performance. Results will be included on the CH2 website towards the end of 2007.

### Outcomes

The building is considered to have been very successful within council and the wider community. It has generated enormous interest in industry circles. However, the full success of the building will not be known until the completion of 12 months of occupation.

### Future Directions of the Initiative

Since its completion CH2 is attracting widespread national and international interest as a model for the future. The City of Melbourne intends to share its experiences and what it has learned in the development of CH2 to help raise the capacity of other organisations to develop green office buildings.

The CH2 Study and Outreach Program is a coordinated effort to consolidate the various opportunities for study, research, documentation and promotion of the building. CH2 represents a unique chance to not just set an example but to run a program that will lead to a much greater understanding of sustainable design and its

benefits. This program aims to significantly influence the building and related industries and generally raise awareness of sustainable design opportunities.

The program includes projects that will:

- document the design, development and construction of CH2;
- research the green technologies in CH2 and help industry adopt them;
- identify and develop productivity measures to guide implementation of ESD in future commercial development; and
- extensively evaluate the building and workplace practices of staff.

### Lessons Learnt

The lessons learnt are in the process of being documented and will be included on the CH2 web site: [www.CH2.com.au](http://www.CH2.com.au).

### Key Steps to Develop a Similar Project

The following are key steps to assist other councils interested in developing a similar project in the future:

1. assemble the right team with proven expertise in conceptual design;
2. use a collaborative design approach, using workshops at the concept stage involving users, facilities managers, artists, etc.; and
3. allow for flexibility in the scope and involve building managers and operators in the design and delivery stages.

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# Westernport Adaptation Project

## Westernport Greenhouse Alliance

### Summary

The Western Port Greenhouse Alliance is undertaking a project to assist stakeholders in the region to prepare for and adapt to the impacts of climate change. The project has been undertaken in three major stages. Information gathered through these stages has been used to establish strategic directions for adaptation approaches across the region.

### Snapshot of the Organisation



**Established:** The WPGA was established in June 2004 to provide a regional framework for local stakeholders to work together on climate change and greenhouse gas projects in the Western Port region.

**Membership:** Membership of the Alliance comprises the City of Casey; Cardinia Shire Council; Bass Coast Shire Council; Frankston City Council; Mornington Peninsula Shire Council.

**Location:** The Western Port region is located in the south east of Melbourne.

**Population:** Over half a million people live in the region.

**Natural Features of the Region:** The region is home to a

number of important environmental, social and economic features. Of note are Port Phillip and Western Port bays, which are important sites for their ecological value, fisheries, tourism and recreation. The bays contain a number of protected marine areas and internationally important wetlands and supports a growing aquaculture industry. Land use in the region is varied and includes rural, urban fringe and urban areas. Agricultural activities include grazing (dairy, beef and sheep) and horticulture (fruit, vegetables and wine). Additionally the region is experiencing increased population pressures with the population having increased by over 160,000 between 1991 and 2003, more than three times the annual rate of growth in Victoria.

**Partnerships for a broad range of environmental issues:** In addition to partnerships between the five councils the Alliance has developed partnerships with 70 organisations (state and federal agencies, NGOs, industry and local community groups) to progress greenhouse and climate change issues.

### Background to the Adaptation Project

The purpose of the adaptation project is to assist key stakeholders in the region prepare for and adapt to the impacts of climate change. A scoping study on climate change impacts and adaptation opportunities in the Western Port region was undertaken in 2005-2006 with funding from DSE. It aimed to:

- raise awareness of the potential impacts of climate change on the region;
- engage stakeholders to assess natural and human vulnerabilities to climate change impacts in the region; and
- explore possible adaptation opportunities.

The scoping study was undertaken in three major stages:

- in Stage A of the study, a number of regional

stakeholders were identified and interviewed about their information needs on the impacts of climate change on their sectors/areas. The results of Stage A are presented in a Needs Analysis report;

- in Stage B, current knowledge and information on the impacts of climate change in Western Port were pulled together into a 'synthesis report', Climate Change Impacts in Western Port; and
- in Stage C of the study, key stakeholders participated in four workshops to prioritise risks and opportunities from climate change on their sectors and to help set directions for responding to climate change in the region, including through regional partnerships.

Information gathered through these stages has been used to establish strategic directions for

adapting to climate change in the Western Port Region.

### Drivers for Project Development

There was growing recognition among Alliance members of the potential impacts of climate change on a wide range of activities, services and systems in Western Port, cutting across natural, social and economic domains. Alliance members wanted to assist the Western Port community to establish adaptation priorities and opportunities now, given the long lead time of many planning and investment decisions and projections of future ongoing climate change. Funding from DSE was vital to develop and deliver a project to achieve this.

### Risks to the Alliance

The WPGA has identified a number of risks that could affect the long-term success of the project. Of note is the risk that outcomes from the study will not be incorporated into planning and decision-making processes, due either to capacity issues or a political inability or unwillingness to do so. The Alliance is addressing this risk by engaging with decision makers and other relevant stakeholders in all aspects of the project. This will help to raise awareness of the potential impacts of climate change on the region and will help decision makers to identify suitable options for adaptation into the future.

### Benefits of the Initiative

There will be a number of benefits for WPGA's five council members and the regional community from the development and delivery of this project. In the first instance it is raising the awareness of decision makers and the community to the potential impacts of climate change at the national, regional and local level. Through partnership approaches across a range of issues the project is helping to clarify roles and responsibilities of all levels of government and their agencies. It is giving the region time and warning to develop and implement preventative measures that will help to protect natural and built assets, thereby reducing impacts to the community. It also has the potential to help increase preparedness for emergency management activities to account for climate change impacts on future operations.

## Implementation

### Development

The initial project was designed by the WPGA management committee. This committee is comprised of representatives from member councils, DSE and ICLEI.

The committee identified stakeholder engagement as a key aspect of the scoping study. As such, key stakeholders were invited to participate in a series of workshops to inform future directions of the study. Almost 70 organisations and 200 individuals participated in various workshops at different stages of the study.

The major task for workshop participants was to prioritise issues. A focused organisation process is needed to ensure that, in developing a future regional response to the impacts of climate change, scarce resources and time are focused on the most pressing issues. The process to determine priority issues was essentially one of 'screening'. It involved stakeholders generating lists of issues relevant to their sector and qualitatively rating each issue according to its 'vulnerability' to climate change – with vulnerability assessed as a function of 'climate sensitivity' and 'capacity to adapt to climate variability and change'.

### Resources

The WPGA received 12 months funding from DSE to undertake this study. The Alliance employed the expertise of a private consulting company and the CSIRO's Climate Impact and Risks group to undertake the project. This work was managed by the WPGA's Executive Officer. It is estimated project management required 20% of the Executive Officer's time over this period.

### Links to Other Programs

Implementation of a regional response to climate change requires effective coordination and integration. It also requires integration of regional climate change adaptation with other strategies, plans and programs at the local, regional, state, and national level. Integration is needed to avoid conflicting objectives between agencies and levels of government to ensure consistency between adaptation responses and initiatives driven by other community objectives – for example, sustainable building design, water conservation and biodiversity protection. This process is being

assisted by the WPGA.

### Partnerships

Partnerships are key to the successful development and delivery of any adaptation project. The WPGA is working closely with member councils (including various departments from environment and planning to health and infrastructure management), agencies and the community to raise awareness of issues associated with climate change and to develop acceptable responses to potential impacts. Partnerships will be vital in the future as the project's continued momentum will ultimately depend on the long-term commitment of regional stakeholders, not only those with an interest in the priority projects, but all stakeholders concerned with effective and efficient adaptation to climate change in the Western Port region.

### Monitoring and Review

An evaluation process was set up as part of the project review, which culminated in the Lessons Learnt Report. The purpose of the evaluation was to assess the success, effectiveness and transferability of the project model and process to other regions. Therefore, the Lessons Learnt Report has been written to assist and guide other regions in developing similar studies, as well as to enable the WPGA to enhance other project processes in the future. It looked at the processes used during the project, the results and outcomes to date.

Data for the evaluation was collected at critical times during the Climate Change Impacts and Adaptation Scoping Study project: following a workshop conducted in Stage A; after the workshops in Stage C; and at the final Reference Group Meeting.

A written questionnaire was used after workshops in Stage A and Stage C, and emailed to attendees to complete. A facilitated workshop was conducted with the Reference Group at their final meeting. Key people identified by the Reference Group were interviewed by telephone or email (responding to a set template).

Respondents answered questions about:

- project methodology;
- processes used, particularly the workshops;
- reports produced throughout the project;
- outcomes achieved to date by the project;

- participants including consideration of the number and range of stakeholders involved in the project, as well as the recruitment processes used;
- project reference group and its role, as well as the actual project management; and
- other aspects including venues, funding, and general comments.

### Outcomes

The project was considered a success by all involved. The project evaluation clearly identified that all objectives had been met and that it had resulted in raising regional stakeholders' awareness of the issues of climate change in the Western Port region.

### Future Directions

An initial step towards implementing regional adaptation measures identified by the scoping studies has been taken, with identification by stakeholders of adaptation project opportunities. At a workshop in April 2006, stakeholders discussed and prioritised a range of cross sectoral issues. From this stakeholders identified five 'partnership projects' including:

- designing a monitoring regime to track impacts of climate change and identify triggers for action;
- strengthening community groups and volunteer organisations to develop responses to climate change through a series of community strengthening workshops;
- developing climate change adaptations to existing emergency management strategies;
- investigate viability of additional water treatment and recycling options in the region (linked project: regional water use mapping); and
- develop climate change scenarios for the region.

The WPGA has secured funding from the Australian and Victorian governments to undertake an integrated assessment of the impacts of climate change on settlements in the Western Port region. The new project, to be undertaken over two years from mid 2006, will enable a number of partnership projects to be initiated, as well as other adaptation opportunities explored by stakeholders.

## Lessons Learnt

The WPGA and its member councils have learnt a number of lessons from their involvement in the Climate Change Impacts and Adaptation Scoping Study:

- it is valuable to develop a robust project methodology, and to spend time at the commencement of a project to define outcomes and processes to be used for delivery;
- it is useful to structure stakeholder engagement over time, building from key person interviews to workshops and then to the development of project partners. This allows processes to be refined, making the best use of participants' time and knowledge;
- while good numbers of stakeholders were involved in all aspects of the project, there could be more emphasis on engagement with sectors less aware of climate change issues,. These groups are less likely to attend or be involved in a project such as this;
- it is important to ensure any reports produced as part of a project such as this are accessible and include a mix of current research as well as participant interpretation and feedback;
- the role of a key project champion/driver, in this case, the Executive Officer of the Western Port Greenhouse Alliance, can be invaluable to the efficient delivery of such a large project that involves a high number of participants from a variety of organisations and diverse backgrounds;
- the establishment of an active Reference Group can be vital to ensure the project can meet its objectives. For example, the Reference Group for this project assisted in the engagement and recruitment of key stakeholders to participate in interviews and workshops and in developing reports that were accessible for a wide audience;
- it can be useful to develop an initial roadshow/round of meetings with key stakeholder groups to brief them on the project, identify internal contacts and assist in identifying and delivering mutually beneficial outcomes. The WPGA found this was especially important when trying to engage with large organisations with specialist staff; and
- it is also important to clearly identify the next

steps for a project such as this, including the potential support and guidance that stakeholders could receive if they are developing their own adaptation projects.

## Key Steps to Developing an Adaptation Project

The following are a number of key steps to assist other councils interested in developing a similar adaptation project:

1. delivery of a project such as this requires a sound management process to ensure it is targeted and able to meet objectives. Therefore, it is important to identify a project champion to oversee all aspects of delivery and provide support to stakeholders. It is also valuable to establish a reference group to help guide the delivery of the project and provide support to the project champion. Try to ensure the group is made up of people with diverse backgrounds and expertise to help develop and modify the project as required;
2. make sure you develop and employ a well defined methodology and engagement processes to ensure you can deliver on the project objectives;
3. ensure the final reports are concise and accessible to a wide audience and meet the needs identified at the beginning of the project; and
4. communicate a series of next steps to all participants in the project, which will help to deliver future adaptation actions.

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# Appendix 1: Research Methodology



This research project was designed to ascertain the current activities, priorities and capacities of Victorian local government in greenhouse gas abatement and climate change adaptation. It also sought to identify best practice models and examples of innovation in the area of greenhouse and climate change by Victorian local government.

## 2005 Victorian Local Government Environment Management Survey

Every three years the MAV undertakes a survey of all Victorian councils on a range of environmental issues. The findings from the most recent survey in 2005 were compared to the results from 2002 to give an indication of change in local government greenhouse activities and approaches over time.

The 2005 survey was completed by 75 of the 79 Victorian local government authorities.

## MAV Climate Change Forum 2006

The MAV, with support from the Australian Government through the Natural Heritage Trust, convened the Local Government Climate Change Policy Forum on 5 October 2006 at Telstra Dome in Melbourne. The forum was part of the MAV's annual environment policy forum series. Victorian local government was well represented at the Climate Change Policy Forum with over 60 councils in attendance and 130 delegates including councillors, CEOs, senior managers and officers. The forum agenda consisted of five keynote addresses on climate change, four local government case studies and a priorities workshop in the afternoon.

## Interviews

Councils were invited to participate in a series of semi-structured interviews conducted by the MAV. In addition the MAV approached a sample of councils which were known to have good greenhouse mitigation or climate change adaptation programs. The interviews were based on a standard set of questions exploring management approaches, institutional

arrangements, key lessons and future directions for programs. Importantly the case studies also identified a number of key steps to assist councils to guide program development in other municipalities. Interviews were undertaken from September - November 2006 and ranged from 45 - 90 minutes in duration.

In determining a research sample the MAV sought to ensure geographical representation of councils interviewed, and diversity in council type, i.e. rural, interface, regional city and metropolitan.

## Limitations

Some pockets of the state are not well represented in the interview sample, e.g. northern Victorian councils. However, the data collected in the Victorian Local Government Environment Management Survey 2005 provides highly representative information from a statewide perspective.

## Appendix 2: Acronyms



AGO – Australian Greenhouse Office  
BAS – Building Automation System  
CCP – Cities for Climate Protection  
CH2 – Council House 2  
CMA – Catchment Management Authority  
CRC – Cooperative Research Centre  
CVGA – Central Victorian Greenhouse Alliance  
DSE – Department of Sustainability and Environment  
EPC – Energy Performance Contract  
ESD – Ecologically Sustainable Development  
GSP – Gross State Product  
FEPP – Farm Emissions and Efficiency Project  
HVAC – Heating, Ventilating and Air Conditioning  
ICLEI – International Council for Local Environment Initiatives  
IPCC – Intergovernmental Panel on Climate Change  
MAV – Municipal Association of Victoria  
NAGA – Northern Alliance for Greenhouse Action  
NEGHA – North East Greenhouse Alliance  
PCM – Phase Change Material  
SEC – State Electricity Commission  
SWSP – South West Sustainability Partnership  
UN – United Nations  
UNEP – United Nations Environment Programme  
UNFCCC – United Nations Convention on Climate Change  
VECCI – Victorian Employers' Chamber of Commerce and Industry  
VGS – Victorian Greenhouse Strategy  
WAGA – Western Alliance for Greenhouse Action  
WMO – World Meteorological Organisation  
WPGA – Western Port Greenhouse Alliance

## Appendix 3: Photo Credits



Cover — MAV, Knox City Council, K. Ward -  
Goulbourn Broken CMA

Page 1 – K. Ward, Goulbourn Broken CMA

Page 2 – MAV

Page 3 – MAV

Page 4 – T. Allen

Page 5 – K. Ward, Goulbourn Broken CMA

Page 6 – Mornington Peninsula Shire Council

Page 22 – NAGA

Page 24 – Mornington Peninsula Shire Council

Page 73 – MAV

Page 74 – M. Jackson, North Central CMA

Page 75 – South Gippsland Shire Council

Page 76 – Frankston City Council

## Appendix 4: References



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