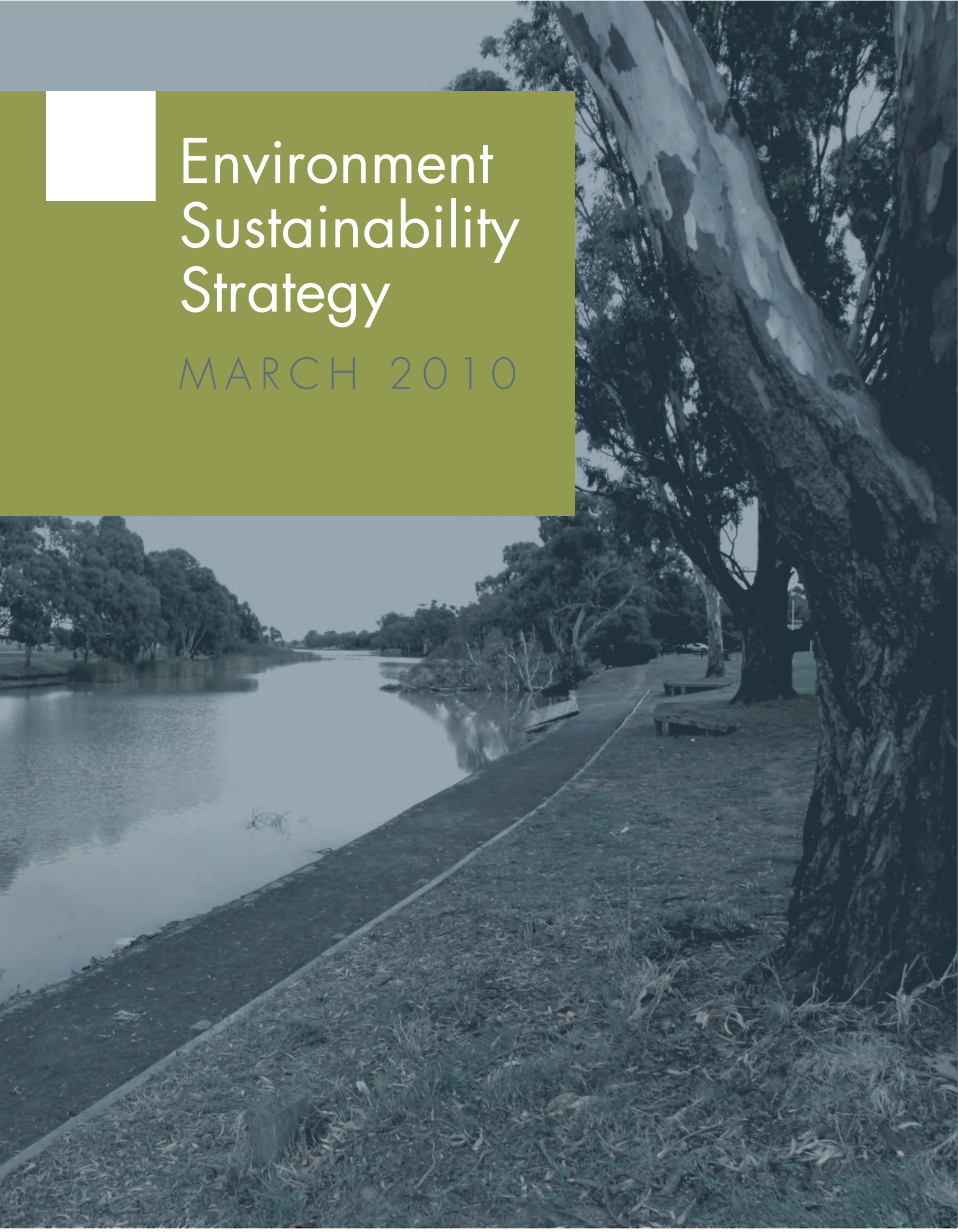
Environment Sustainability Strategy

MARCH 2010



Horsham Rural City Council urban rural balance

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GLOSSARY

Biodiversity	Biological diversity reflects the number, variety and variability of living organisms (eg, plants, animals, fungi, bacteria and other micro-organisms) and how these change from one location to another over time. Biodiversity includes diversity within species (genetic diversity), between species (species diversity) and between ecosystems (ecosystem diversity).
Bioenergy	Renewable energy produced from organic matter. The conversion of complex carbohydrates in organic matter to energy. Organic matter may either be used directly as a fuel or processed into liquids and gases.
Biolink	An area of relatively well-connected land parcels containing native habitat through which wildlife and people can move for the benefit of their survival.
Carbon sinks	Carbon reservoirs and conditions that take in and store more carbon (ie, carbon sequestration) than they release.
Catchment	Land bounded by natural features from which all runoff water flows to the lowest point such as a creek, river, wetland or ocean, or underground water system.
Climate	Long-term pattern of weather classically averaged over a 30-year period that characterises a region.
Climate change	A change of climate, in addition to natural climate variability over time, which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere.
Ecological Footprint	Ecological Footprint is a concept that defines a theoretical area of land (hectares per person) needed to provide products for human consumption (including energy) as well as that required for waste disposal. Simply, it is the amount of land, water and air required to support each person. Every human activity consumes resources from the planet and produces waste that the planet must then deal with. We can even measure how close we are to a sustainable society. This is where the Ecological Footprint has a major role to play. In fact, we are all bound to our planet's environment and natural resources through our Ecological Footprint.
Ecological vegetation class (EVC)	Detailed classification system for native vegetation described through a combination of its floristic, life form and ecological characteristics and inferred fidelity to particular environmental attributes.
Ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.
Ecosystem Services	Services provided by the natural environment that humans benefit from such as pollination of crops and native vegetation, shade and shelter, maintenance of fertile soil, clean water and climate regulation.
Embodied energy	Energy required making, transporting or disposing something.
Global warming	The accelerated warming of earth's atmosphere that is believed to result from a build up of greenhouse gases.
Greenhouse gases	Gases that trap the heat of the sun in the earth's atmosphere, producing the greenhouse effect. The two major greenhouse gases are water vapour and carbon dioxide. Other greenhouse gases include methane, ozone, chlorofluorocarbons and nitrous oxide.
Greywater	Domestic water from bathrooms (hand basin, shower and bath) and laundries, excluding water from kitchens and toilets.
Groundwater	Water that infiltrates into the earth and is stored in usable amounts in the soil and rock below the earth's surface; water within the zone of saturation.

GLOSSARY

Habitat	The specific area or environment in which a particular type of plant or animal lives.
Habitat Hectare	A theoretical method for assessing native vegetation quality. One habitat hectare equals one hectare of native vegetation which retains the average characteristics of a mature and apparently long-undisturbed stand of the same vegetation type.
Indigenous Vegetation	Plant species that existed in a given area prior to European arrival.
Landform	The shape of the land as the result of weathering forces such as wind, water and plants.
Native Vegetation	Vegetation which is indigenous to Australia, but is not necessarily indigenous (occurring naturally) in a specific local environment.
Net Gain	A term used in the Victorian Government's Native Vegetation Framework to describe a situation where overall gains in native vegetation are greater than overall losses and where individual losses are avoided where possible.
Potable Water	Water that is suitable for human consumption.
Recycled Water	Water that has had its quality sufficiently upgraded so that it can be used for another purpose or restored for the same purpose.
Remnant Vegetation	Native vegetation occurring within fragmented landscapes. Remnants are generally small to medium sized patches of vegetation surrounded by highly modified land, such as cropping or grazing lands.
Renewable Energy	Energy generated from sources that can be renewed or are in limitless supply, such as solar, wind or hydro power or biofuels.
Salinity	The concentration of salt in a solution.
Sodicity	A measure of the amount of available sodium in water or soil.
Soil	Surface material including living biological elements.
Solid Waste	Solid waste is waste that includes predominantly household waste (domestic waste) with sometimes the addition of commercial wastes collected by a municipality within a given area. They are in either solid or semi-solid form and generally exclude industrial hazardous wastes.
Solid Waste Management	Solid waste management is the collection, transport, processing, recycling or disposal, and monitoring of waste materials. The term usually relates to materials produced by human activity, and is generally undertaken to reduce their effect on health, the environment or aesthetics. Waste management is also carried out to recover resources from it.
Sustainable	Working within the capability of our natural systems and efficient energy use to provide for today and our future generations.
Waste	Waste is the name given to everything that we throw away. After waste is collected from rubbish bins most is buried in large holes in the ground called landfill sites.
Waterway	Rivers, streams, creeks, drains and channels.

ABBREVIATIONS

AGO	Australian Greenhouse Office (now the Department of Climate Change)
CBD	Central Business District
CCP	Cities for Climate Protection Program
CFA	Country Fire Authority
CLHW	Community Lifestyle Health and Wellbeing
CMA	Catchment Management Authority
CO2-e	Carbon Dioxide Equivalent
CoM	Committee of Management
CPRS	Carbon Pollution Reduction Scheme
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EF	Energy Efficiency
FTE	Full Time Equivalent
EMMV	Emergency Management Manual Victoria
ENE	Extreme Natural Events
EPA	Environment Protection Authority
EVC	Ecological Vegetation Class
GCC	Global Corporate Challenge
GIS	Geographic Information System
HRCC	Horsham Rural City Council
HVAC	Heating Ventilation and Air Conditioning
IT	Information Technology
L	Leadership
MAV	Municipal Association of Victoria
MERO	Municipal Emergency Response Officer
MSS	Municipal Strategic Statement
NGERS	National Greenhouse and Energy Reporting System
ppm	parts per million
SWM	Solid Waste Management
SWMP	Stormwater Management Plan
SWU	Sustainable Water Use
TBE	The Built Environment
TNE	The Natural Environment
TR	Transport
TRE	The Rural Environment
VLSA	Victorian Local Sustainability Accord
WMSA	Wimmera Mallee Sustainability Alliance
WSUD	Water Sensitive Urban Design

A MESSAGE FOR HORSHAM RURAL CITY COUNCIL

Horsham Rural City Council (HRCC) has a mandate to incorporate sustainability into all operations as a "way of doing business". This means buying smart, upgrading to cleaner fleets, building social capacity, enacting policies that support sustainable best practices, implementing a sustainable economic strategy and protecting the environment.

Because Horsham Rural City expects its citizens to lower their energy consumption, it must "walk-the-talk" in its own operations.

The Council and its community is taking steps to adapt to climate change. To ensure it is prepared for change, HRCC is focused on making changes to its core infrastructure, including sewers, parks, water utilities and roadways. The Council will assess land-use planning, housing, energy supply and other areas to determine future priorities.

Regional projections of the impacts of climate change are not perfect. They are best estimates that will continue to be revised as more research is completed. HRCC is working collaboratively with other levels of government and organisations to make sure that planning reflects current and changing understanding of the science.

Advancing sustainability at the local level requires a great deal of commitment and planning. HRCC has endorsed a Council Plan which supports the underlying principles and strategies for achieving sustainability.

The Council Plan incorporates many fundamental elements of sustainability including good governance, civic participation, equity, and social, environmental and economic viability.

We must all integrate environmental stewardship into our daily activities to maintain and improve the health of the environment for present and future generations.

The environment, community and economy in the Rural City of Horsham should be healthy and vibrant and meet the needs of today without compromising the lives and needs of future generations. HRCC will continue to invest in quality of life, socially, economically, culturally and environmentally, to make Horsham Rural City a desirable place to live, work and visit.

Mayor Michael Ryan

CONTENTS

A: INTRODUCTION AND BACKGROUND

A1. Introduction

Horsham Rural City Council provides over 200 services and programs for the community each year including specialised 24-hour services, seven days a week, 52 weeks of the year. These services and programs, ranging from family support, children and youth services, working with disability support service groups and providing vital assistance to older residents, touch every aspect of the community and directly affect how people live and work in the region.

Along with these human services, HRCC also provides essential infrastructure including road and footpath construction and maintenance, recreational reserves upkeep including Horsham Botanical Gardens and provision of environmental services including collection of municipal waste and operation of the Dooen landfill.

HRCC is responding to the community's increased interest in environmentally sustainable actions and is demonstrating its commitment to becoming a leader in sustainability through the development and implementation of this Environment Sustainability Strategy.

HRCC aims to:

- Demonstrate its commitment to environmental sustainability through its actions;
- Minimise environmental impacts of Council and community activities in areas such as waste and transport;
- Assist the community to adapt to climate change;
- Highlight the need for improved building design and siting;
- Apply sustainability principles and best practice to reduce Council and community greenhouse gas emissions;
- Promote sustainable use of natural resources;
- Adopt a sustainability approach to our natural assets, including waterways, bushland and open space, to ensure they are protected and enhanced;
- Work with partner organisations and community groups to make a difference;
- Share knowledge and information so that we can all learn together.

This Strategy is a living document that will be reviewed periodically and can be adjusted to respond to emerging : priorities at a Global, Federal, State or Local level.

When implemented, the Strategy will:

- Protect species and enhance habitats and areas of natural significance;
- Ensure HRCC operations and services are provided using environmentally sustainable practices and techniques;
- Provide a clear pathway for HRCC's strategic direction on sustainability issues and development;
- Give clear direction to the community and developers on HRCC's expectations and requirements in relation to environmental issues;
- Enhance community health and well-being, life style and knowledge on living sustainably; and
- Ensure that community expectations in relation to sustainability can be measured, monitored and achieved.

A2. Municipal profile

The municipality of Horsham Rural City Council has a population of 19,648 people (HRCC, 2009), of which over 13,000 live in the regional centre of Horsham. Approximately 400 people live in the historic township of Natimuk. The balance of the population resides within rural areas of the municipality.

The regional centre of Horsham is the focus of commerce, industry, education, and health and government activity of the Wimmera. The centre is estimated to serve a regional population of 50,000 people extending from Stawell and Balmoral to the south, north to Hopetoun and west to the South Australian border.

Horsham Rural City Council services an area of 4249 square kilometres of which the significant landscape feature is the wide open plains of the Wimmera. The Wimmera River traverses the municipality from east to north and the municipality is part of the catchments of the Wimmera and Glenelg Rivers. The region has been described as one of the most reliable grain growing areas in Australia, and is home to 10% of the state's sheep flock.

Horsham Rural City Council is bounded by five municipalities: Hindmarsh and West Wimmera Shire Councils to the west, Yarriambiack Shire Council to the north, Northern Grampians to the east and Southern Grampians along the southern boundary.

Figure 1. Municipality of Horsham Rural City Council.

Snapshot

Population:	19,648*
Area:	4249 sq km
Road Length:	2945 kms
Number of Council Employees:	179 EFT
Number of Councillors:	7
Rateable properties:	11,358
Rate and Charge Revenue:	$13,865,797#
Total Revenue (including grants):	$31,774,080#
Municipal Charge:	$189
Garbage Charge:	$220/$145
Major employment sector in municipality:	Agriculture and Retail

** There has been an annual population growth of 1%*

 # Based on 2008-2009 financial year

Population and social profile

In the 2006 Census, 20.4% of the population usually resident in the municipality were children aged between 0-14 years, and 28.4% were persons aged 55 years and over. The median age of persons were 39 years, compared with 37 years for persons in Australia. 1.2% were Indigenous persons (compared with 2.3% Indigenous persons in Australia).

94.3% of persons usually resident in the municipality were Australian citizens, 4.9% were born overseas and 0.2% were overseas visitors.

English was stated as the only language spoken at home by 94.8% of persons usually resident in the municipality. The most common languages other than English spoken at home were: Italian 0.7%, Greek 0.1%, German 0.1%, Dutch 0.1% and Hindi 0.1%.

The most common responses for occupation for employed persons usually resident in the municipality were Managers 18.4%, Professionals 16.5%, Technicians and Trades Workers 14.0%, Clerical and Administrative Workers 12.0% and Sales Workers 11.7%.

The most common industries of employment for persons aged 15 years and over usually resident in the municipality were Sheep, Beef Cattle and Grain Farming 9.5%, Hospitals 6.2%, School Education 4.8%, Cafes, Restaurants and Takeaway Food Services 3.7% and Supermarket and Grocery Stores 2.8%.

In the municipality, the median weekly individual income for persons aged 15 years and over who were usual residents was $433, compared with $466 in Australia. The median weekly household income was $832, compared with $1027 in Australia. The median weekly family income was $1064, compared with $1171 in Australia.

In the 2006 Census, there were 7319 occupied private dwellings counted in the municipality: 86.7% were separate houses, 4.1% were semi-detached, row or terrace houses, townhouses etc, 8.2% were flats, units or apartments and 1.1% were other dwellings.

In the municipality, 40.1% of occupied private dwellings were fully owned, 31.3% were being purchased and 24.0% were rented.

As an overall comment, while the population of the municipality has been growing, the growth is mainly observed in the city of Horsham with the rural population declining in number.

Environmental assets

The municipality of Horsham Rural City encompasses a treasure trove of natural assets in the Wimmera and Glenelg River catchments.

Waterways and wetlands are among the municipality's most valuable natural assets (Horsham Rural City Council, undated). The Wimmera River is the largest water course in the municipality and north of Polkemmet Bridge is classified as a heritage river under the Heritage Rivers Act 1992. This section of the river is very important environmentally but much of the remaining length of the river is in poor condition and the river generally has poor water quality in times of low flow.

Other key waterways include the Glenelg River, MacKenzie River, Burnt Creek, Bungalally Creek, Mt William Creek, Natimuk Creek and Yarriambiack Creek.

The waterways are bounded by large and interconnected floodplains and wetlands. Floods have been a regular feature in the past and have both a positive impact on the environment and a negative impact on the community.

Classified by the National Trust, the Grampians National Park, in the municipality's south-east, is of great environmental and scenic value and contains many sites of cultural importance.

The adjacent Black Range forms part of the significant landscape with remnant habitat and water supply catchment.

The world renowned rock climbing sites of Mitre Rock and Mount Arapiles are also found in the municipality. Attracting 70,000 visitors to the region each year these inspiring natural features are vital in sustaining the nearby town of Natimuk. Mount Arapiles is an important landscape feature visible across the plains from many areas within the municipality.

The Natimuk-Douglas Wetlands are considered to be of international significance as a nesting site for many thousands of migratory birds each year. The wetlands consist of more than 30 natural saline and fresh water lakes on both public and private land.

The Little Desert National Park, to the north of the municipality, is another important repository of indigenous vegetation, flora and fauna, attracting many tourists each year.

The soils of the municipality underpin the local economy and it is of vital importance that this natural resource be protected. Issues of erosion, salinity and sodicity must be addressed so that the viability and sustainability of cropping and grazing is not compromised.

Saline verses sodic soils

In saline soils, sodium has a partner in crime, chlorine, with which it forms a salt. The presence of salt in the soil reduces the availability of water to plants and at high enough concentrations can kill them.

In sodic soils, much of the chlorine has been washed away, leaving behind sodium ions (sodium atoms with a positive charge) attached to tiny clay particles in the soil. As a result, these clay particles lose their tendency to stick together when wet – leading to unstable soils which may erode or become impermeable to both water and roots.

The municipality has been extensively cleared as a result of past and, to a lesser extent, current agricultural practices. As such, remnant vegetation is valuable in terms of biodiversity, habitat, salinity management and soil stabilisation.

The municipality is home to 77 of Victoria's rare and threatened plant species, of which 20 are listed under the *Flora and Fauna Guarantee Act 1988*.

The municipality is also home to 46 species of threatened fauna, of which 29 are listed under the *Flora and Fauna Guarantee Act 1988*. Many of these species are located within public land but some are in the care of private landowners. Road and railway reserves frequently contain important remnant vegetation and habitat.

A3. Background

What is environmental sustainability?

The Bruntland Report popularised the term sustainability for human and environmental development when it was published in 1987. In the report, sustainable activities were defined as ones where the needs of the present generation are met without compromising the needs of future generations.

Often the term sustainability can be misconstrued when in actual fact it is quite simple; every human activity consumes resources from the planet and produces waste that the planet must then deal with.

Sustainability is about:
- doing more with less (resource efficiency);
- making sure we don't leave the cupboard bare for the next generation (resource planning);
- thinking about what we leave behind (resource management).

Environmental sustainability is also about having a better understanding of environmental systems that support what we do, and the need to take a broader view to recognise that our day-to-day activities can simultaneously affect our economy, environment and community.

Why have a strategy?

Horsham Rural City Council can be instrumental in taking an important leadership role in responding to environmental decline by adopting environmentally sustainable management practices within its own operations and by promoting environmental sustainability within its community.

The main drivers for HRCC to prepare the strategy are:
- That the community's quality of life is maintained and improved;
- That an appropriate response to community concerns about damaging and irreversible changes to our environment is addressed; and
- There be compliance with international standards, national and state legislation and policy.

Benefits of environment sustainability

Some of the benefits to HRCC include:
- Improved capacity to meet community expectations;
- Stronger regional links;
- Recognition as a local leader;
- Opportunities to attract funding to the municipality;
- Reduced environmental impact;
- Reducing economic burden through efficiencies gained from improved energy and water use practices;
- Material sourcing through revised procurement practices; and
- Integrated decision-making which takes all foreseeable economic, social and environmental considerations into account.

Positive outcomes anticipated for the municipality as a whole are:
- Stronger relationships between the community, Federal and State government agencies and Council;
- Reduction of impact of climate change on our communities;
- Reduced energy costs and consumption;
- Healthier rivers, creeks, wetlands and floodplains; and
- Enhancement of biodiversity values and prevention of the loss of biodiversity.

What is the purpose of the strategy?

The purpose of the Environment Sustainability Strategy is to:
- Outline HRCC's commitment to environmental sustainability;
- Guide HRCC's decision-making and management practices to achieve environmentally responsible and sustainable outcomes for the municipality;
- Recognise HRCC's responsibility for addressing the potential adverse impacts of climate change; and
- Recognise HRCC's role in promoting the adoption of environmentally sustainable practices within the municipality.

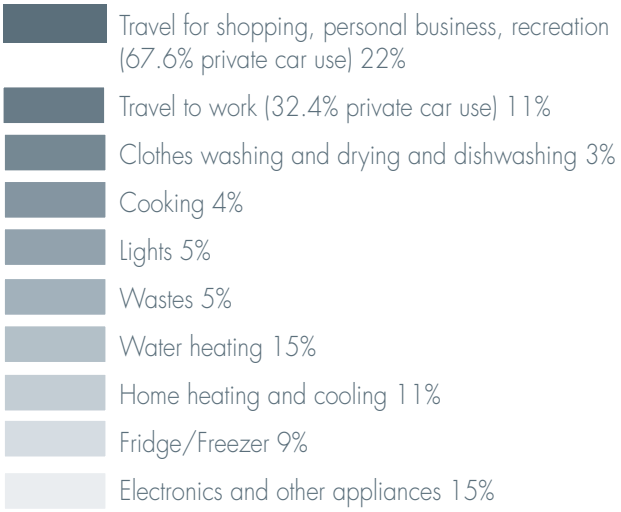
What activities does the strategy cover?

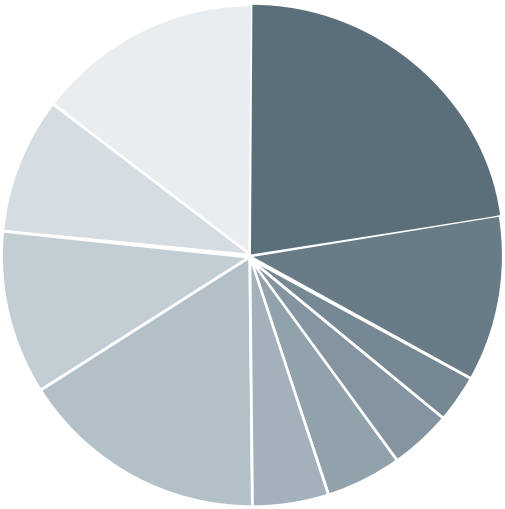
The strategy applies to the following activities:

- The way HRCC delivers its services to the community, including services delivered by Council's contractors;
- The way HRCC manages the land it owns or controls, including local roadsides, reserves and public open spaces;
- The way HRCC undertakes its own business and administration functions and their environmental impact, including consumption of energy and resources and generation of waste and emissions;
- HRCC's role in regulating land use, development and amenity within the municipality; and
- Leadership provided by HRCC in relation to environmental matters, including community engagement, education and advocacy.

Facts and useful information

Did you know that each year the average Australian household generates about 14 tonnes of greenhouse gas?





Source: http://www.environment.gov.au/settlements/gwci/households.html

The facts about climate change

What causes climate change?

Climate change is caused by an increase in greenhouse gases in the Earth's atmosphere. These gases absorb heat leaving the earth and return some of it, making the earth warmer overall.

Before the Industrial Revolution, carbon dioxide levels in the atmosphere were consistently between 260 and 280 parts per million (ppm). In recent times human activities have increased the concentration to 380ppm, which is an increase of more than one-third!

What activities produce greenhouse gases?

- burning fossil fuels, such as coal, oil or gas
- using electricity generated by burning fossil fuels
- some aspects of farming, such as raising cattle and sheep, use of fertilisers and some crops
- clearing of land
- breakdown of food and plant wastes and sewage
- some industrial processes such as making cement and aluminium.

The main greenhouse gases generated by human activity are carbon dioxide, methane and nitrous oxide, and some manufactured gases such as chlorofluorocarbons (CFCs) and some of their replacements.
Water vapour is also a powerful greenhouse gas, but the amount in the atmosphere is not directly linked to human activity.

What are the effects of climate change?

Research by the world's scientists, including the Intergovernmental Panel on Climate Change, suggests:

- On average, the Earth's temperature has already risen by around 0.7°C over the past 100 years, and is projected to increase from 1.0 to 6.4°C by the end of the 21st century.
- Sea levels are rising as oceans expand and glaciers and ice sheets melt. By 2100 sea levels may rise by between 18 to 59cm.
- Changes in climate patterns mean we will see some weather events and extremes such as heat waves, floods and storms, droughts and bushfires become more frequent, more widespread or more intense.
- Adverse impacts on plants, animals and human health as climate patterns shift.

Australia is very vulnerable to the impacts of climate change, including water supply problems, sea level rises, extreme weather events and a reduction in biodiversity in ecologically-rich sites such as the Great Barrier Reef and Kakadu wetlands.

Globally, 11 of the last 12 years are the warmest since 1850, and 2005 was Australia's warmest year on record, 1.09°C above the average for the period 1961 to 1990.

Source: http://www.environment.gov.au/settlements/gwci/households.html

B:
THE STRATEGY

B1. Vision for environmental sustainability

Our vision

Horsham Rural City Council is striving to promote a vibrant, inclusive, regional community through sustainable, responsive leadership.

Our mission

Horsham Rural City Council, working with the community, will grow and develop the municipality as a vibrant regional centre through strong leadership, good governance, and responsible use of resources, responsive services and quality infrastructure whilst preserving our natural environment.

Our values

In pursuing its strategic objectives, Horsham Rural City Council believes in and is committed to the following values:

- We are accountable to our community for our decisions and actions;
- We will seek creative, innovative solutions for continuous improvement;
- We will work as a team to achieve quality outcomes; and
- We will lead the community in a professional manner.

B2: Environment sustainability principles

In conjunction with Horsham Rural City Council's vision, mission and organisational values, the following principles establish the basis for integrating sustainability into Council operations, strategies, culture and everyday decisions.

Our environment sustainability principles are:

1. Lead by example;
2. Protect what we value;
3. Improve what we have;
4. Reduce what we use;
5. Minimise what we leave; and
6. Share what we learn.

B3: Environmental sustainability objectives

To guide the strategic direction of the Environment Sustainability Strategy, a comprehensive set of objectives have been established that clearly align with the Strategy's key principles.

1. Lead by example

1.1 Incorporate environmental impact risk assessment and mitigation into the planning of major Council projects.

1.2 Incorporate sustainable design into the planning of Council building and refurbishment projects.

1.3 Plan responses to extreme events and support the community's recovery process.

1.4 Develop procurement policies that give preference to environmentally friendly products (green, recycled) and services, where value for money is not compromised.

1.5 Investigate using alternative water supplies in Council operations, including recycled stormwater, rainwater and wastewater.

1.6 Employ and promote water sensitive urban design that improves water quality and retains as much water as possible, for as long as possible, within its natural catchment.

1.7 Investigate cost-effective use of alternative, renewable energy sources across Council's operations.

1.8 Increase the capacity of Council employees to assess and refine work practices to improve environmental sustainability performance.

2. Protect what we value

2.1 Ensure that Council-controlled land is managed in ways that protect and enhance native flora, fauna, natural habitat and indigenous cultural values.
2.2 Control and, where possible, eradicate invasive pest plants and animal species on Council-managed land.
2.3 Implement works practices that limit site disturbance and avoid adverse environmental impacts.
2.4 Utilise the Horsham Planning Scheme, infrastructure development guidelines and local laws to improve and enhance the environmental performance of development proposals.
2.5 Identify and manage risks to Council-managed natural assets associated with potential adverse impacts of climate change.
2.6 Reduce the impact of effluent on waterways and environmental health.

3. Improve what we have

3.1 Work in partnership with land and catchment management agencies and private landowners to:
   a. balance environmental protection with the need to address community safety obligations to fire and emergency management and road safety.
   b. improve coordination of environmental protection and enhancement.
3.2 Encourage adoption of sustainable land management practices among private landowners, through planning policy guidelines, education and the consideration of incentive schemes.
3.3 Utilise existing developed land more efficiently to reduce the loss of habitat and productive agricultural land.
3.4 Encourage new development to contribute to an energy and resource efficient urban environment.
3.5 Encourage subdivision, development, works, building and construction practices within Council and the community that incorporate sound environmental design principles, low impact materials, efficient and renewable energy requirements and the conservation of natural resources.

4. Reduce what we use

4.1 Reduce consumption of goods and materials across Council operations.
4.2 Reduce Council's water consumption through the development and implementation of improved efficiency measures.
4.3 Implement efficiency measures to reduce Council's consumption of energy derived from fossil fuels.
4.4 Encourage the community and industry to conserve water, energy and the use of natural resources.
4.5 Support low-income households in their efforts to be more environmentally sustainable in their homes.
4.6 Encourage residents and visitors to use alternative means of transport in their everyday activities and travel outside the region.
4.7 Promote the use of walking tracks and bicycle paths.
4.8 Reduce the volume of Council's corporate waste through recycling and reuse.

5. Minimise what we leave

5.1 Identify and continually reduce greenhouse gas emissions across all Council operations, including Council buildings, fleet, public lighting and waste facilities.
5.2 Investigate the means of offsetting residual corporate greenhouse gas emissions that cannot be reduced or avoided, with the aim of ultimately achieving carbon neutrality.
5.3 Promote reduction of greenhouse gas emissions by households and businesses in the municipality.
5.4 Maximise recovery of all reusable or recyclable resources from all municipal waste streams.
5.5 Provide opportunities and facilities for safe disposal of chemicals and materials that are toxic and/or hazardous to the environment.
5.6 Prevent storm water runoff containing litter and contaminants from entering waterways.

6. Share what we learn

6.1 Implement community education initiatives that encourage waste minimisation, litter prevention and recycling.
6.2 Ensure open communication of Council's environmental sustainability practices and performance.
6.3 Encourage and support Council's volunteer committees of management (Section 86) to adopt sound environmentally sustainable practices.
6.4 Establish collaborative partnerships with the community, other Local Government bodies, business groups and relevant organisations that promote environmental sustainability.
6.5 Utilise Council's communication mediums and community networks to promote environmentally sustainable practices to the wider community.
6.6 Advocate on behalf of the local community to other agencies and levels of government on issues of local environmental sustainability concern.
6.7 Support events and programs in the community that promote awareness of environmental sustainability issues.

B4: Strategic direction

The key environmental sustainability issues in HRCC's strategy are:

1. Leadership (L);
2. Energy efficiency (EE);
3. Sustainable water use (SWU);
4. Solid waste management (SWM);
5. Transport (TR);
6. The built environment (TBE);
7. The rural environment (TRE);
8. The natural environment (TNE);
9. Community lifestyle, health and wellbeing (CLHW); and
10. Extreme natural events (ENE).

1. Leadership (L)

Horsham Rural City Council has a responsibility to its ratepayers and the community to become a leader in environmental sustainability.

Horsham Rural City Council is a diverse organisation, employing over 215 people in its various service areas. The organisations diversity extends from home care delivery, administrative duties, policy development, community engagement and strengthening programs, road and bridge design and construction, child care, and parks and gardens management. In all areas opportunities, can be identified to improve the Council's environmental sustainability.

Through implementing actions that increase sustainability, Council will reduce its ecological footprint and subsequently its operational costs.

Achievements to date

Key achievements to date in the area of the leadership include:

- Council is a signatory of the Victorian Local Sustainability Accord.
- Council is an active member of the Wimmera Mallee Sustainability Alliance.
- Council is supportive of staff who undertake the Global Corporate challenge.
- Council uses video conferencing for key meetings to reduce travel.
- Council is trialling the use of smaller, fuel efficient vehicles.
- Council provides alternative means of transport for staff to use to travel to meetings.
- Council encourages staff to car pool for travel to meetings within and outside the municipality.
- Council encourages staff to use public transport for travel to meetings and work events outside the municipality.

What we want to achieve (Principle Objectives)

In the area of leadership HRCC's principle objectives are to:

- Increase capacity of Council employees to assess and refine work practices to improve environmental sustainability performance. (1.8)
- Ensure open communication of Council's environmental sustainability practices and performance. (6.2)
- Encourage and supporting Council's volunteer Section 86 committees of management to adopt sound environmentally sustainable practices. (6.3)
- Establish collaborative partnerships with the community, other Local Government bodies, business groups and relevant organisations that promote environmental sustainability. (6.4)
- Utilise Council's communication mediums and community networks to promote environmentally sustainable practices to the wider community. (6.5)
- Advocate on behalf of the local community to other agencies and levels of government on issues of local environmental sustainability concern. (6.6)
- Support events and programs in the community that promote the awareness of environmental sustainability issues. (6.7)

HRCC ACTION PLAN: LEADERSHIP

	Action	Responsible Department	Timeline
Purchasing of goods and services			
L1	Become a member of ECO-Buy.	Corporate Services and Economic Development	December 2010
L2	Through the ECO-Buy program, implement improvements to Council's purchasing system to ensure efficient use of resources, a strategic procurement focus and balance between economic and environmental sustainability.	Corporate Services and Economic Development	June 2011
L3	Develop standard environmental sustainability clauses for incorporation into contracting documents and processes.	Technical Services	September 2010
L4	Ensure that environmental sustainability considerations are incorporated into purchasing policy and practice for information technology equipment.	Corporate Services and Economic Development	July 2010
L5	Incorporate environmental sustainability specifications into key services contracts including cleaning.	All Departments	July 2010
Monitoring performance			
L6	Establish Council's 2010 baseline of energy and water consumption and waste generation.	Technical Services	July 2010
L7	Monitor and report on Council's energy and water consumption and waste generation through Council's Annual Report.	Corporate Services and Economic Development	Annually commencing 2010-2011
Supporting our community			
L8	Support community groups and Committees of Management to implement environment sustainability initiatives across the municipality.	Technical Services	Ongoing
L9	Investigate and implement appropriate practices and technology to reduce paper waste from Council offices and facilities.	Technical Services	December 2010
L10	Continue to support the establishment of new group/groups with a focus on environmental sustainability actions.	Technical Services	Ongoing
L11	Continue to support existing groups who have a focus on environmental sustainability actions.	Technical Services	Ongoing
L12	Publically recognise the environment sustainability achievements of individuals, groups, townships, schools and businesses on a regular basis.	Technical Services	Quarterly

Action		Responsible Department	Timeline
Strategic direction			
L13	Ensure environmental sustainability is a primary consideration in all future Council strategies and plans.	Corporate Services and Economic Development	Ongoing
L14	Review and revise the structure of Council reports to incorporate how relevant actions align with Council's Environment Sustainability Strategy and how they deliver on Council sustainability priorities.	Corporate Services and Economic Development followed by all Council Departments	June 2010
Provide leadership to staff			
L15	Continue to improve technology so staff can work remotely from the office.	Corporate Services and Economic Development	December 2010
L16	Provide training opportunities to staff in all areas of environment sustainability relevant to their position and duties.	Corporate Services and Economic Development	Ongoing
Professional networks			
L17	Continue to build strong working relationships with Catchment Management Authorities, VicRoads, Powercor and GWMWater.	Technical Services	Ongoing

Indicators of success (Targets)

Success in the area of leadership will be achieved when:

- An environment policy has been developed.
- Stakeholder and client awareness of Council's environmental sustainability commitments is increased.
- Quarterly reports on internal and external achievements.
- An environment team is formed to drive implementation of the Strategy.
- Increase in Council's ability to measure environmental impacts through establishing data collection systems or processes.
- Environmental assessment is integrated into all Council decision-making processes and operations.
- Greenhouse gas emissions from Council's operations is reduced by xx% (target to be established).
- 100% of staff trained in environmental sustainable practices.
- 24 media releases and advertisements are released per year with a focus on environmental sustainability practices.
- Council is supporting four community events per year that promote environmental sustainability.

Facts and useful information

Join ECO-buy

ECO-Buy Limited is a not for profit Centre of Excellence in Environmental Purchasing, established to encourage the purchase of environmentally preferable (green) products and services.

Green purchasing is based on the simple premise that every purchase impacts on the environment in some way, and is about choosing to buy products and services that are less damaging to our environment and human health than competing products and services that serve the same purpose.

ECO-Buy's objective is to increase the demand and use of green products and services.

To achieve this, ECO-Buy offers a one-stop-shop to support organisations to 'green' their purchasing, providing a wide range of services and resources, from policy and strategy development and implementation to practical tools, templates and advice.

ECO-Buy membership will provide a significant number of benefits to Council including:

- Saving money and improving resource efficiency;
- Enhancing market development for recycled products;
- Reducing greenhouse gas emissions;
- Showing leadership and building strong partnerships;
- Enhancing environmental quality;
- Contributing to employment creation and economic development;
- Enhancing its image; and
- Positive contribution to staff morale.

As a member of ECO-Buy, Council:

- Gains access to the extensive range of ECO-Buy resources;
- Becomes a member of Australia's leading green purchasing program;
- Becomes part of a local government network who share their knowledge, experiences and achievements;
- Participates in forums with other ECO-Buy members;
- Participates in meetings with suppliers of green products;
- Receives a membership certificate; and
- Has access to the ECO-Buy logo.

Source: http://www.ecobuy.org.au

Horsham Rural City Council Global Corporate Challenge 2009

A part of Council's health and wellbeing efforts

On Thursday 21 May, 2009, 14 committed Council workers took up the challenge to walk 10,000 steps per day for 125 days. This is the level the World Health Organisation recommends for white collar workers to improve health and reduce risk of chronic illness.

In doing this Horsham Rural City Council employees joined with 60,000 other participants from all over the world who have recorded their daily steps on the Global Corporate Challenge (GCC) 2009 website. When your steps are entered, your team moves on a plotted virtual journey around the world. The program has been in place for several years and is available to companies and organisations to encourage employees, and in turn the workplace to be more active.

10,000 steps equates to about an hour and a half of constant walking, travelling approximately 6kms. There was also a choice to ride your bike if you prefer and convert your kms to steps (1 kilometre walking = 6 kilometres cycling).

The HRCC GCC 2009 walkers completed this amazing challenge and are really feeling the benefits of being a lot more healthier and getting out in the fresh air, which definitely makes for a better and more productive day at work. Most participants confirmed that without donning our pedometers every day to try to reach that (at times) elusive 10,000 steps they would have been a lot more sedentary especially through those cold winter months.

In November 2009, two Council teams had clocked up almost 19 million steps which is an awesome effort by everyone involved in the Global Corporate Challenge.

Throughout the journey employees have covered many of the streets, parks and shops in Horsham and many plan to continue enjoying the beautiful sunny spring days with many more great walks to be undertaken at lunchtimes with work colleagues.

For more information refer to the Global Corporate Challenge website http://www.gcc2009.com/

2. Energy efficiency (EF)

As the availability of resources for traditional energy production declines, the economic costs of energy consumption in homes and businesses is likely to increase. Local governments will be looking for opportunities to cut costs and align programs and services with an increased need for environmentally sustainable outcomes.

98 per cent of Australia's electricity is sourced from burning fossil fuels, mostly brown coal and natural gas, which are major sources of air pollution and greenhouse gases.
Source: http://www.bayside.vic.gov.au/environment_climate_change_and_energy_efficiency.htm

Energy efficiency will be one of the most vital components of sustainability actions aimed at reducing costs, creating better work environments and encouraging environmental stewardship.
Source: http://pcrd.typepad.com/ecd/2009/04/energy-efficiency-for-local-government.html

According to the Australian Greenhouse Office, average energy consumption in Australian commercial buildings by end use is shown in Figure 3.

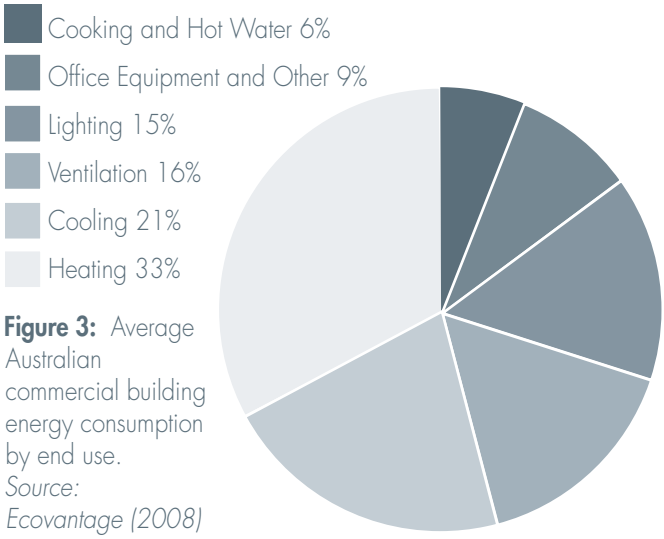


Figure 3: Average Australian commercial building energy consumption by end use.
Source: Ecovantage (2008)

Improving energy efficiency has a number of direct and indirect benefits, including:

- Reduced operating costs;
- Reduced environmental impact; and
- Improved health and wellbeing of employees. Energy efficient buildings have improved lighting, heating and cooling, thereby improving the office environment and employees comfort.

Through its Environment Sustainability Strategy, Horsham Rural City Council will implement a range of energy efficiency measures to:

- Reduce energy consumption;
- Increase use of renewable energy in day-to-day operations; and
- Facilitate communities to adopt energy efficient practices and behaviours.

As the Local authority responsible for managing urban and rural development, Horsham Rural City Council have committed to improved energy efficiency in all new buildings and developments through their planning scheme.

Achievements to date

Key achievements to date in the area of energy efficiency include:

- Completion of an energy assessment report for the Roberts Avenue office (2008).
- Group solar purchase in Natimuk and surrounds (34 households) and Laharum (28 households) (2009).

What we want to achieve (Principle Objectives)

In the area of energy efficiency principle objectives are to:

- Investigate cost-effective use of alternative, renewable energy sources across Council's operations. (1.7)
- Implement efficiency measures to reduce Council's consumption of energy derived from fossil fuels. (4.3)
- Encourage the community and industry to conserve water, energy and the use of natural resources. (4.4)
- Identify and continually reduce greenhouse gas emissions across all Council operations, including Councils buildings, fleet, public lighting and waste facilities. (5.1)
- Investigate the means of offsetting residual corporate greenhouse gas emissions that cannot be reduced or avoided, with the aim of ultimately achieving carbon neutrality. (5.2)
- Promote the reduction of greenhouse gas emissions by households and businesses in the municipality. (5.3)

HRCC ACTION PLAN: ENERGY EFFICIENCY

	Action	Responsible Department	Timeline
Council buildings and facilities			
EF1	Undertake energy audits/assessments for all Council facilities (Horsham Caravan Park, Town Hall and Regional Art Gallery, Aquatic Centre, Natimuk Office, Depot, Firebrace Street offices)	Planning and Promotion Services	June 2011
EF2	Implement the measures of energy audits/assessments.	Planning and Promotion Services	To be determined
EF3	Purchase energy saver rated equipment.	Planning and Promotion Services	Ongoing as equipment is replaced
EF4	Undertake light audit to identify energy efficient lighting opportunities in Council buildings.	Corporate Services and Economic Development	December 2010
EF5	Utilise lux meter to identify opportunities for de-lamping (consistent with Australian Standards).	Planning and Promotion Services	June 2011
EF6	Replace lighting in Council buildings with more efficient technology (fittings and lamps) where appropriate.	Planning and Promotion Services	To be determined
EF7	Ensure replacement lamps are energy efficient, and maintenance staff are aware of relevant technologies when conducting reactive maintenance.	Planning and Promotion Services	Ongoing
EF8	Install motion and light sensors to control lighting in all areas, including automatic switch off system after normal working hours.	Planning and Promotion Services	To be determined
EF9	Install automated computer switch off system.	Corporate Services and Economic Development	December 2011
EF10	Install timers on all relevant equipment (ie, printers, copiers, boiling water units) to ensure they only operate during business hours.	Planning and Promotion Services	September 2010
EF11	Ensure energy efficiency settings (ie, energy star) are enabled on all relevant office equipment such as computers, monitors, printers, photocopiers, etc.	Corporate Services and Economic Development	July 2010
EF12	Conduct a printer rationalisation review to maximise efficiency of internal printing and copying services. This should include consideration of multi-function devices.	Corporate Services and Economic Development	September 2011
EF13	Use Powermate (or similar device) to monitor the energy consumption of key office equipment to inform the rationalisation of use or replacement of equipment. Key equipment to monitor: • Fridges • Photocopiers • Printers; • Computers • Shredder • Servers	Technical Services	July 2010
EF14	Use Powermate to evaluate and communicate the outcomes of activities including 'turn-off' policy or equipment replacement program.	Corporate Services and Economic Development	Ongoing

Action		Responsible Department	Timeline
Council buildings and facilities			
EF15	Install seven-day timer switches for hot water and other appropriate appliances to switch off outside of operating hours.	Planning and Promotion Services	July 2010
EF16	Install Smart Boxes on facilities to reduce power consumption.	Technical Services	December 2010
EF17	Adopt shut down procedures for outside operational hours.	Planning and Promotion Services	September 2010
EF18	Review building insulation to ensure it is adequate.	Planning and Promotion Services	March 2011
EF19	Review operation of HVAC machinery to ensure it is performing efficiently.	Planning and Promotion Services	December 2010
EF20	Adjust temperature settings to limit space heating to 20°C where possible.	Planning and Promotion Services	July 2010
EF21	Encourage staff to wear appropriate clothing relative to their working space.	Corporate Services and Economic Development	Ongoing
EF22	Investigate potential for local renewable energy generation (solar collectors, wind power).	Corporate Services and Economic Development	Ongoing
EF23	Explore the feasibility of purchasing GreenPower (or similar) for a minimum of 25% of total electricity consumption.	Technical Services	June 2011
EF24	Incorporate a requirement in electricity retailer's contract to provide an electronic, quarterly summary of electricity consumption.	Technical Services	July 2010
EF25	Investigate the use of solar hot water heating on Council facilities to reduce electricity consumption and provide demonstration and education to the community.	Planning and Promotion Services	2012
EF26	Meet or exceed minimum energy and water efficiency standards when purchasing new whitegoods, IT peripherals and other appliances.	Corporate Services and Economic Development	Ongoing
Public lighting			
EF27	Implement energy efficient public lighting through the Powercor bulk lamp change program.	Technical Services	Ongoing
EF28	Install solar lighting in public places where appropriate.	Technical Services	Ongoing
Promotion			
EF29	Promote the adoption of energy saving actions throughout the community.	Planning and Promotion Services	Ongoing

NOTE: For information and actions relating to energy efficiency in vehicles refer to Section 8.5 – transport.

Indicators of success (Targets)

Success in the area of energy efficiency will be achieved when:

- Targets for greenhouse gas reductions are established.
- Energy consumption from key activities is reduced by 20%, compared to 2010 baseline.
- 25% of electricity is purchased from renewable sources.
- Targets are developed for improving environmental performance for energy consumption.

Facts and useful information

Why efficiency and conservation?

While building more power plants to meet our energy needs would work in a world with infinite fossil fuels and atmosphere, our warming world demands efficiency and conservation.

Source: http://www.fypower.org/partners/ilg/

Why manage energy?

- Cost impact – Up to 30% of energy is typically wasted by businesses
- Rising prices – Utility and Climate Change Levy costs
- New and Planned Legislation requirements - e.g. Carbon Reduction Pollution Scheme
- Increasing environmental awareness of business stakeholders
- It's a large proportion of your total Carbon footprint

Source: http://www.carbonfootprint.com/businesssolutions.html

What is GreenPower?

GreenPower is electricity generated from government accredited renewable energy.

GreenPower
Accredited Renewable Energy

Where does GreenPower come from?

GreenPower is sourced from the sun, wind, water and waste which produce no greenhouse gas emissions.
When an organisation buys a GreenPower accredited product, energy suppliers commit to buying a specified amount of electricity from approved renewable energy sources that would otherwise have been sourced from fossil fuels.

Solar panels being installed on a house as part of the Natimuk group purchase.
Photo courtesy of Melissa Morris.

Sunny outlook rules

WHEN the people of **Natimuk** were thinking about what they could do to help the environment, the main plan was to become a "greenhouse gas-free" community.

With that aim identified as a local priority through the Community Building Initiative, they started looking at what steps they could take to help them get there.

While there's not a lot of rain in Natimuk, they do have plenty of sunshine, so community members started investigating available options for solar power.

Natimuk resident Heather Phillips said the project team started out with the idea of approaching local sporting clubs, suggesting that solar would bring cost savings for them.

Fellow team member Meg Sleeman said when they looked into the process of "going solar", they found people were eligible for government rebates.

Initiative: solar scheme supporters (from left) Les Keyte, Zoe Wilkinson, Meg Sleeman, Heather Phillips and Melissa Morris.

With assistance from the CBI facilitator for the town and the Horsham Rural City Council, the team then started a "group buy" of a solar grid system.

More than 50 townspeople attended presentations from two suppliers, with the result that about 40 homes — nearly 10 per cent of houses in the town — have signed on to "go solar".

The grid is expected to be operational in the next few months, which should see a surge in community interest.

As more join in, the Natimuk zero emissions community will be that much closer.

Source: The Weekly Times, January 21, 2009

3. Sustainable water use (SWU)

Managing water resources, both surface and groundwater, in a sustainable way has become a leading issue for individuals and all levels of government in Australia.

The need for more sustainable water practices has been heightened by the recent years of drought and well below average rainfall and the increased reliance on groundwater sources.

The Wimmera region has experienced over 10 consecutive exceptionally dry years. CSIRO predict that if the recent climate (1997 to 2006) were to continue for the long-term, both average surface water availability and use in the Wimmera basin would decline by about 50 percent (CSIRO, 2007).

Climate change is likely to result in substantial reductions in the volumes of water in our rivers and creeks. CSIRO's best estimates indicate a 20 percent reduction in surface water availability over the coming years. Our communities are likely to experience severe water restrictions more regularly, prolonged dry spells and continued decline in the health of our rivers and streams. This will have a significant impact on the health and wellbeing of our communities.

These conditions have resulted in significant steps towards sustainable water use by members of the community, Local Government, GWMWater and the Victorian Government. However, more is needed if we are to achieve sustainable water use in the near future.

Sustainable water use in the urban environment

Sustainable water use and management is an important consideration for urban developments and includes managing:

- drinking water;
- stormwater run-off;
- waterway health;
- sewage treatment; and
- recycling/reuse.

A key tool for integrating sustainable water use and management into urban planning and design is Water Sensitive Urban Design (WSUD)
Source: http://wsud.melbournewater.com.au/

Stormwater capture and reuse

There has been significant focus in Horsham on the capture, treatment and reuse of stormwater to replace the use of potable water (drinkable water) for watering parks, gardens, sporting fields and other public open spaces over the past few years.

Council also recognises the environmental benefits of capturing, treating and reusing stormwater.

The current best management practices for stormwater reuse are outlined in Hinch's 2009 report and include:

- Rainwater tanks installed on buildings and plumbed into the building for use in watering gardens, toilet flushing and laundry;
- Filtration systems that capture, filter and store stormwater underground for later use. These systems are ideal for parks, gardens and sporting fields;
- Pop-up stormwater disbursement which bring underground property stormwater in pipes to the surface through gravity pressure to disperse over a rain garden to be treated before returning the system to be captured for reuse;
- Roof gardens reduce stormwater runoff and improve the quality of the water that does runoff;
- Basins, wetlands and sediment ponds capture and treat stormwater that can then be used for irrigation, etc; and
- Stormwater treatment plants where localised treatment and reuse is not achievable, a treatment plan can be used to treat water and make it available for suitable uses.

Local government role

Local government is often a significant water user, watering parks, sporting fields, public gardens and other open spaces, and using water for other Council operations including road construction and maintenance.

As the local planning authority, local government is in a unique position to shape public attitude and behaviour regarding water conservation and to set standards for water conservation in new developments (Victorian Government, 2004).

What HRCC can do

As managers of large areas of open space and community facilities, Horsham Rural City Council is in an ideal position to play an important role in conserving water within its own operations and through community action and education.

Some of the ways in which HRCC can work with GWMWater to achieve reductions in water consumption, include:

- **Influence** – HRCC is well positioned to have a positive influence over the community, particularly in terms of environmental management. Examples of Council leading the way in positive environmental change include the success of the International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Change Program, that relates to programs and initiatives to reduce greenhouse gas emissions on a local level. As major purchasers of goods and services Council can also influence industry by including water efficiency as criteria in its purchasing policies.

- **Leadership** – HRCC has the capacity to lead by example and demonstrate to the community and industry a proactive approach to dealing with water management. By developing and implementing an Environment Sustainability Strategy to guide its operations in a sustainable manner, Council can provide leadership and actively promote water conservation in the wider community. It will also assist Council to better access State and Federal government funding opportunities.

- **Awareness and education** – Council can work with GWMWater to establish, develop and facilitate the distribution of educational material and information relating to water management. Community workshops, industry forums and public education campaigns are some of the ways in which Council can facilitate educating the community to better manage and use water resources.

- **Commercial and residential development** – HRCC plays a significant role in new commercial and residential developments. Council has powers under both state and local planning provisions to seek water sensitive urban design for new subdivisions and industrial estates. Council officers can work closely with developers and environmental agencies to ensure that new and future developments are developed in a manner that will ensure the efficient and effective use, treatment and reuse of water.

Achievements to date

HRCCs key achievements in the area of sustainable water use include:

- Extensive capturing and re-using of stormwater to water public open spaces (racecourse wetlands, Police Paddocks, Wotonga Basin).
- Establishment of wetland systems in new developments to treat stormwater prior to entering the Wimmera River (Weir Park wetlands, Federation Estate wetlands, Southbank wetlands).

What we want to achieve (Principle Objectives)

In the area of sustainable water use HRCC wants to:

- Investigate the utilisation of alternative water supplies in Council operations, including recycled stormwater, rainwater and wastewater. (1.5)
- Employ and promote water sensitive urban design that improves water quality and retains as much water as possible, for as long as possible, within its natural catchment. (1.6)
- Reduce Council's water consumption through the development and implementation of improved efficiency measures. (4.2)
- Encourage the community and industry to conserve water, energy and the use of natural resources. (4.4)

HRCC ACTION PLAN: SUSTAINABLE WATER USE

	Action	Responsible Department	Timeline
Strategic direction			
SWU1	Conduct a water balance to identify major uses of water and leaks within Council facilities.	Planning and Promotion Services	December 2011
SWU2	Continue to implement the strategies and actions included within the Wimmera Stormwater Management Plan.	Technical Services	Ongoing
SWU3	Prepare and implement a stormwater management plan for Horsham.	Technical Services	Plan by 2012
Monitor performance			
SWU4	Monitor water consumption across all Council assets by requesting data from GWMWater. Data should be provided at least annually or more frequently and will be used to update current available data.	Technical Services	Ongoing commencing July 2010
SWU5	Provide information on HRCC's website of Council's reduction in water consumption and accessing alternative water supplies.	Technical Services	June 2010 Updated quarterly
Council buildings and facilities			
SWU6	Purchase and install water-efficient appliances at all Council buildings and facilities.	Planning and Promotion Services	Ongoing
SWU7	Install check meters, where possible, to enable accurate monitoring.	Planning and Promotion Services	March 2011
SWU8	Install/retrofit water-efficient plumbing at all Council facilities including: • flow restrictors • low-flow shower heads • dual-flush toilets • waterless urinals • shower timers	Planning and Promotion Services/Technical Services	To be determined
SWU9	Review cleaning practices to identify opportunities to reduce water consumption (ie, high pressure cleaning equipment and low water cleaning products).	Corporate Services and Economic Development	2011
SWU10	Undertake quarterly walk through audit of Council facilities to identify water leaks.	Planning and Promotion Services	Quarterly commencing July 2010
SWU11	Implement a system for reporting and repairing of water leaks.	Planning and Promotion Services	September 2010
SWU12	Investigate the possibility of installing water tanks at facilities for capture and reuse of rainwater.	Planning and Promotion Services	2012
SWU13	Plan and implement a grey water system to recycle water within Council buildings and key facilities.	Planning and Promotion Services	To be determined
SWU14	Meet or exceed minimum water efficiency standards when purchasing new whitegoods, IT peripherals and other appliances.	Corporate Services and Economic Development	Ongoing with purchase of new or replacement equipment
SWU15	Install appropriate signage in Council buildings and facilities to encourage staff to be water savers.	Planning and Promotion Services	September 2010
SWU16	Continue to raise awareness through education and promotion of water smart practices to staff.	Corporate Services and Economic Development	Ongoing

Action		Responsible Department	Timeline
Council buildings and facilities			
SWU17	Hold information sessions during staff meetings.	Corporate Services and Economic Development	3 sessions per year
SWU18	Review lease agreements on Council owned properties to include payment for water and/or requirements for lessees to meet water conservation requirements.	Corporate Services and Economic Development	2012
SWU19	Review water use at the Horsham Aquatic Centre and implement key actions to reduce water consumption.	Planning and Promotion Services	2013
Public spaces			
SWU20	Install spring loaded self closing taps to all drinking fountains and taps in public spaces.	Technical Services	As equipment is replaced
SWU21	Implement a system for reporting and repairing of water leaks from drinking fountains and taps in public spaces.	Technical Services	September 2010
SWU22	Investigate alternative sources of water for outdoor use including recycled water from external sources, ie, treated wastewater, stormwater.	Technical Services	September 2010
SWU23	Develop and implement a policy for the use of local native and drought tolerant vegetation in gardens.	Technical Services	2012
SWU24	Investigate the potential to replace open space grasses/ lawn to warm season grasses or alternate low water ground cover (ie, mulch, gravel).	Technical Services	2013
SWU25	Where practical utilise drip irrigation and weather sensitive irrigation systems in open spaces.	Technical Services	2013
SWU26	Work to challenge community expectations of green parks and sports fields in light of limited water supplies.	Technical Services	Ongoing
Community support			
SWU27	Assist community groups to identify state and federal government funding opportunities for small scale projects.	Technical Services	Ongoing
SWU28	Promote and continue to build on existing community partnerships and programs.	Technical Services	Ongoing
Urban Planning			
SWU29	In accordance with State Government policy and in conjunction with relevant authorities, develop a planning policy that promotes water efficiency in new residential developments including the use of Water Sensitive Urban Design (WSUD), use of on-site water retention in rainwater tanks and investigation of the potential for the re-use of grey water and storm water. When developed this policy will be incorporated into the Horsham Planning Scheme.	Planning and Promotion Services	Ongoing

Indicators of success (Targets)

Success in the area of sustainable water use will be achieved when:

- Targets for improving environmental performance for water reduction are developed.
- Water consumption in Council buildings and operations is reduced by 20%, compared to 2009/2010 baseline.
- Low water use gardens and plants are established throughout public open spaces in the municipality.
- 100% of new subdivisions include best practice water sensitive urban design.
- 100% of stormwater outlets to have working gross pollutant traps installed.

Facts and useful information

The key principles of Water Sensitive Urban Design as stated in the Urban Stormwater - Best Practice Environmental Management Guidelines (Victorian Stormwater Committee, 1999) are:

Protect natural systems - protect and enhance natural water systems within urban developments. Promoting and protecting natural waterways as assets allows them to function more effectively and supports the ecosystems that rely on them.

Integrate stormwater treatment into the landscape - use stormwater in the landscape by incorporating multiple use corridors that maximise the visual and recreational amenity of developments. The natural stormwater drainage system can be utilised for its aesthetic qualities within parklands and walking paths, making use of natural topography such as creek lines and ponding areas.

Protect water quality - improve the quality of water draining from urban developments into receiving environment. Through filtration and retention, water draining from urban development's can be treated to remove pollutants close to their source. This approach reduces the effect that polluted water can have upon the environment and protects the natural waterways.

Reduce runoff and peak flows - reduce peak flows from urban development by local detention measures and minimising impervious areas. Local detention and retention enables effective land use for flood mitigation by utilising numerous storage points in contrast to the current practice of utilisation of large retarding basins. This approach subsequently reduces the infrastructure required downstream to effectively drain urban developments during rainfall events.

Add value while minimising development costs - minimise the drainage infrastructure cost of the development. The reduction of downstream drainage infrastructure due to reduced peak flows and runoff minimises the development costs for drainage, whilst enhancing natural features such as rivers and lakes that add value to the properties of the area.

Source: http://wsud.melbournewater.com.au/content/wsud_key_principles/wsud_key_principles.asp

Factors influencing water use sustainability include

Personal factors
- Interest in water sustainability.
- Social consciousness.
- Moral stance – less use of personal water to give more for the environment.
- Awareness of water and other sustainability issues.

Social pressure and encouragement
- Encouragement from neighbours and friends (eg, planting of native gardens).
- Pressuring and encouraging others.
- Children and parents identifying each others' unsustainable practices.

Financial pressure
- Cost of water (inhibits and encourages).

Government intervention/regulation
- More incentives for water conservation (eg, incentives for industry).
- Presence of 'Water Police' in some cities.
- Local Council support (eg, providing free water saving devices).

Feedback on water supply usage
- Personal water readings (self supplied or supplied by the water authority).
- Reports on dam levels.

Education and innovation
- Providing information on alternative ways to conserve water.
- Education about water use efficiency and utilising alternative supplies.
- Education for younger generations.

Ease of conservation practices
- Systems you do not have to think about.
- Dual flush toilets.
- Electronic sprinkler systems.
- Flow reducer shower heads.
- Bucket in sink or shower.

Source: Browne et.al., 2007

Wimmera-Mallee pipeline

The Wimmera Mallee Pipeline Project is one of the most significant water resource management projects in Australia. The $688 million project involves the construction of almost 9,000 kilometres of reticulated pipeline to replace over 16,000 kilometres of existing, highly inefficient open channels. The project will supply stock and domestic water to approximately 6,000 rural customers and 36 towns across a region that covers 10% of the total land area of Victoria, from the Grampians to the Murray River.

The objective of the project is to provide a sustainable water supply system that will meet the needs of the Wimmera Mallee region for the next 100 years. The open channel system that currently services the region is unsustainable. At present, 85 per cent of water in the system is wasted through seepage and evaporation. A total of 120,000 megalitres of water are released from storages in the Grampians each year, but only 17,000 megalitres of water are ultimately used by customers on farms and in towns.

Source: Victorian Government, 2004. http://www.ourwater.vic.gov.au/programs/water-grid/wimmera-mallee

4. Solid waste management (SWM)

Waste disposal is a major issue for government and the community alike. Victorians now recycle more than 50 percent of their solid waste but still produce 9.9 million tonnes of waste a year, half of which goes to landfill (DSE, 2006).

The 2008 survey of waste to landfill conducted by Grampians Regional Waste Management Group found that over 50% of household waste collected by Council as part of its kerbside collection is organic waste (food scraps and garden materials) (Grampians Regional Waste Management Group, 2008) (Figure 4). This is in line with work completed by Hyder in 2008 regarding metropolitan municipalities with a two bin system (Hyder, 2008).

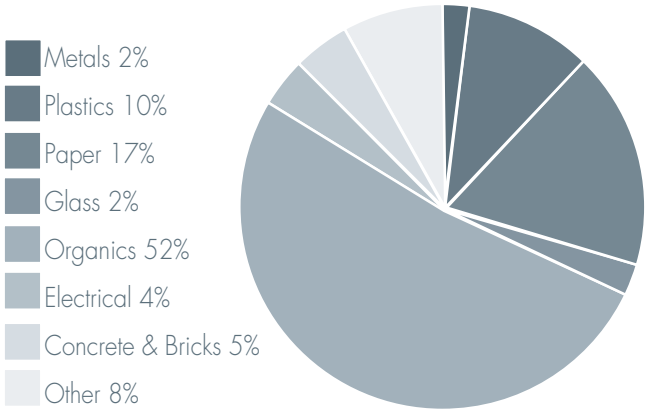


Figure 4: Composition of kerbside collection waste from Horsham Rural City Council municipality.
Source: Grampians Regional Waste Management Group, 2008.

Future policy around the Carbon Pollution Reduction Scheme (CPRS) is likely to require operators of landfills to be liable for emissions generated from the sites. Most carbon emissions from landfill sites are generated from the landfilling of organics.

The current situation for Horsham Rural City Council

Horsham Rural City Council has a commitment to the cleanliness of the municipality and the environment in general.

In 2001, Horsham was named Australia's Tidiest Town and the Council aims to maintain this high standard in the city and throughout the municipality. A clean rural city is important for health and safety as well as feelings of security, pride and enjoyment of the environment. Council provides and promotes services for a cleaner city, including regular household rubbish collection, rural rubbish collection, recycling, transfer stations and rural landfills.

Horsham Rural City Council plays an active role in waste management by providing waste disposal and recycling services as well as the regulation of waste disposal by people and organisations in the municipality.

In addition to providing services and regulation, Horsham Rural City Council also provides advice and education to assist and encourage people to dispose/recycle their waste responsibly.

Specific waste services provided by Horsham Rural City Council include:

- Collection and disposal of general household garbage, which usually includes waste that cannot be recycled using Council's recycling services
- Recycling services that may include paper, glass, plastic and metal waste products
- Transfer stations and landfill sites for disposal and recycling services
- Commercial waste removal services

HRCC operates one landfill site at Dooen. In 2008 the Dooen landfill site received 30,868.29 tonnes of waste (GHD, 2009). This included commercial and industrial waste, construction and demolition waste and general municipal or kerbside collection (GHD, 2009). Over the last five years the volume of waste received at the landfill has increased by an average of 4.66% per year (GHD, 2009).

Recent modelling indicates that the Dooen landfill will reach the trigger value of 25,000 tonnes of CO2-e which will require Horsham Rural City Council to participate in the National Greenhouse and
Energy Reporting System (NGERS) and (potentially) any future Carbon Pollution Reduction Scheme (CPRS). This will result in a significant financial cost to Council and the municipality.

For these reasons, reducing, reusing and recycling our solid waste is a critical step in environmental sustainability.

Achievements to date

Key achievements to date in the area of solid waste management include:

- Introduction of a two bin system with a recycle bin kerbside collection service operated on a fortnightly basis.
- No additional charge to rate papers for the recycle bin services.
- Recycling stations operated in key rural areas.
- Horsham Rural City Council is an integral member of the Grampians Regional Waste Management Group. Through this group a regional waste management strategy has been prepared and is being implemented.
- A review of the landfill gas emissions at the Dooen Landfill Site has recently being completed.
- Management options for landfill gases are being reviewed.

What we want to achieve (Principle Objectives)

HRCC would like to achieve the following objectives in the area of solid waste management:

- Develop procurement policies that give preference to environmentally friendly products (green, recycled) and services, where value for money is not compromised. (1.4)
- Reduce consumption of goods and materials across the organisation. (4.1)
- Reduce the volume of Council's corporate waste through recycling and reuse. (4.8)
- Maximise the recovery of all reusable or recyclable resources from all municipal waste streams. (5.4)
- Implement community education initiatives that encourage waste minimisation, litter prevention and recycling. (6.1)

HRCC ACTION PLAN: SOLID WASTE MANAGEMENT

Action		Responsible Department	Timeline
Strategic direction			
SWM1	Continue to be an active member of the Grampians Regional Waste Management Group.	Technical Services	Ongoing
SWM2	Conduct waste audits on a yearly basis and publish the results.	Technical Services	Annually
SWM3	Provide information on HRCC'S website, newsletter and annual report on the breakdown of waste and recycling collected through kerbside services.	Technical Services	By September 2010 and then Ongoing
SWM4	Conduct waste audit/assessment of offices to measure amount of material being recycled and land filled, quantify types of contamination in landfill and recycling streams, and develop waste reduction targets and recommendations for improvement.	Technical Services	December 2010
SWM5	Report audit/assessment findings to senior management team and staff, especially waste minimisation objectives and targets, and seek feedback on planned initiatives.	Technical Services	July 2011
Reduce			
SWM6	Investigate options for reducing the amount of organic waste that goes to landfill.	Technical Services	2012
SWM7	Encourage households to compost organic waste.	Technical Services	Ongoing
SWM8	Prepare and implement an environmental purchasing policy that promotes and support products with low waste profiles.	Corporate Services and Economic Development	July 2011
SWM9	Continually review bulk purchasing agreements with a focus on minimising waste (ie, excess packaging, packaging take-back, excess cords, and software).	All Departments	Ongoing
SWM10	Require suppliers to use returnable/reusable cartons instead of cardboard boxes.	Corporate Services and Economic Development	July 2011

Action		Responsible Department	Timeline
Reduce			
SWM11	Develop and implement a printing policy including setting all machines to duplex, rationalising printers/copiers, phasing out non-duplex machines and guiding what should be processed electronically.	Corporate Services and Economic Development	September 2010
SWM12	Institute "think before you print" policy aimed at eliminating unnecessary printing. Reduce font sizes/use word processing software to fit more text onto paper.	Corporate Services and Economic Development	September 2010
SWM13	Encourage the use of electronic communications in place of hard copies. Review record management policies and processes to accommodate electronic records.	Corporate Services and Economic Development	Ongoing
Reuse			
SWM14	Reuse scrap paper that has been printed on only one side for note-taking. Donate scrap office paper to local schools for projects, etc.	Corporate Services and Economic Development	Ongoing
Recycle			
SWM15	Continue to service and promote recycling facilities throughout the municipality.	Technical Services	Ongoing
SWM16	Promote the use of recycling bins and encourage residents to use kerbside recycling services where available.	Technical Services	Ongoing
SWM17	Continue to investigate the feasibility of options to harness landfill gas from the Dooen landfill site.	Technical Services	2012
SWM18	Donate or sell old computer/electrical equipment, furniture, fittings that are still in good condition.	Corporate Services and Economic Development	Ongoing
SWM19	Recycle all old mobile phones.	Corporate Services and Economic Development	Ongoing
SWM20	Introduce recycling systems within Council offices for major waste streams including: • Paper and cardboard • Organics • Bottles and cans • Packaging and plastics • One-sided printing	All Departments	September 2010
SWM21	Recycle or ensure safe disposal of light bulbs and tubes.	Planning and Promotion Services	Ongoing
SWM22	Arrange for collection and recycling of printer cartridges (if reuse option not available).	Corporate Services and Economic Development	Ongoing
SWM23	Conduct regular visual inspections of bin contents to assess contamination in recycle bins. Update staff of outcomes and successes.	Technical Services	Monthly inspections
SWM24	Modify/refresh signage on recycling bins to promote correct recycling practice.	Planning and Promotion Services	September 2010
SWM25	Remove individual landfill bins at desks and replace with recycling bins. Provide central landfill bins.	Planning and Promotion Services	September 2010
SWM26	Recycle or reuse all electronic and IT equipment following replacement.	Corporate Services and Economic Development	Ongoing
SWM27	Undertake ongoing promotion of the benefits of recycling and the location of recycle stations.	Technical Services	Ongoing
SWM28	Review options for providing recycling services at key public facilities such as football ovals etc.	Technical Services	December 2010

Indicators of success (Targets)

Success in the area of solid waste management will be achieved when:

- Targets for solid waste reduction are developed.
- Targets for reduction in the volume of organic waste going to landfill are developed.
- An environmental purchasing policy is developed and implemented.
- Environmental specifications for our procurement of goods and services is developed and implemented.
- Waste generation from Council offices and buildings is reduced by 15%, compared to 2010 baseline.
- Every household with a kerbside recycling service has a recycling bin and actively recycles their solid waste.
- The proportion of waste recycled is increased to 85%, compared to 2010 baseline.
- 100% of all recyclable paper is eliminated from landfill waste bins.
- Contamination in office recycling bins reduced from 20% to 5%.
- Cardboard packaging used for items delivered to Council reduced by 60%.
- 100% of printer cartridges are recycled/reused.
- 100% of mobile phones either reused or recycled.
- 80% of office equipment, furniture, etc. diverted from landfill.
- 50% reduction in littering behaviour.
- Bi-monthly opportunities provided throughout the municipality for the safe disposal of chemicals and materials.

Facts and useful information

Waste is the name given to everything that we throw away. After waste is collected from your rubbish bin most of it is buried in big holes in the ground called landfill sites.

Landfills produce a toxic liquid called leachate, a mixture of rainwater that filters through the top of the landfill and other liquids in the waste. The liquid mixes with substances such as organic acids (produced from rotting kitchen waste) and other hazardous substances. If not properly managed or collected leachate can make its way into the surrounding groundwater or surface waterways and be harmful to aquatic, plant, animal and human life.

Source: http://www.cleanup.org.au/au/Campaigns/reuse-recycle-reduce.html

What is a Landfill?

There are two ways to bury waste:

1. Dump - an open hole in the ground where waste is buried and that has various animals (rats, mice, birds) swarming around. (This is most people's idea of a landfill!)
2. Landfill - carefully designed structure built into or on top of the ground in which waste is isolated from the surrounding environment (groundwater, air, rain). This isolation is accomplished with a bottom liner and daily covering of soil.

The purpose of a landfill is to bury the waste in such a way that it will be isolated from groundwater, will be kept dry and will not be in contact with air. Under these conditions, waste will not decompose much. A landfill is not like a compost pile, where the purpose is to bury waste in such a way that it will decompose quickly.
Source: http://science.howstuffworks.com/landfill3.htm

Why is organic waste a problem at landfill sites?

By their nature and design, landfill sites minimise the amount of oxygen that is mixed in with the solid waste. As the organic waste is broken down in the low oxygen environment a gas is released that is rich in methane. It is thought that methane gas has 21 times the global warming potential of carbon dioxide over 100 years.
Source: http://www.environmentvictoria.org.au/content/problem-landfill

What happens to solid waste in a landfill?

Solid waste put in a landfill will stay there for a very long time. Inside a landfill, there is little oxygen and little moisture. Under these conditions, waste does not break down very rapidly. In fact, when old landfills have been excavated or sampled, 40-year-old newspapers have been found with easily readable print. Landfills are not designed to break down waste, merely to bury it. When a landfill closes, the site, especially the groundwater, must be monitored and maintained for up to 30 years!

Source: http://science.howstuffworks.com/landfill7.htm

Do you know how much waste you make?

You and every other Australian contribute around one tonne of waste each year - a mixture of household garbage and industrial waste created by things we buy or use. It's becoming more difficult and expensive to find new refuse tips for our waste.

Source: http://www.epa.qld.gov.au/environmental_management/waste/waste_minimisation/reduce_reuse_recycle/

Key benefits of minimising waste are:

1. It conserves valuable resources including:

- Minerals – used to make many useful materials (e.g. bauxite is used to make aluminium).
- Energy – used in mining, harvesting, manufacturing and transporting.
- Native forests – used to make some types of paper and other wood products.
- Petroleum – used to make plastics.
- Landfill sites – the life of existing sites is extended.

2. It saves money. Cutting waste can save money in many different ways:

- If you waste less, you get more out of what you buy and waste disposal costs are reduced.
- Businesses become more efficient.
- Household incomes stretch further.

3. It reduces the impact on the environment.

- Fewer areas need to be affected by resource extraction (e.g. mining), harvesting or solid waste disposal.
- Less fossil fuel needs to be burnt for energy, thus reducing the release of greenhouse gases and other pollutants.

Source: www.sustainability.vic.gov.au/

Waste management hierarchy

The waste management hierarchy is a nationally and internationally accepted guide for prioritising waste management practices with the objective of achieving the optimal environmental outcome. It sets out the preferred order of waste management practices from the most preferred to least preferred.

Source: http://www.zerowaste.sa.gov.au/About.mvc/Wastemanagementhierarchy

When landfill gases become a problem

September 11, 2008 15:16:00

Methane levels at a Cranbourne housing development have become so high that some residents have been advised to evacuate their homes.

Hundreds of people have been advised to evacuate their homes on a Melbourne housing estate due to dangerous levels of methane gas.

The Brookland Greens Housing Estate in Cranbourne, east of Melbourne, is built near an old landfill site where more than 1-million tonnes of waste is buried.

Steve Warrington, from the Country Fire Authority (CFA) said there is a real risk of explosion at the housing estate.
"There was a very real risk of gas concentration levels sufficient enough to cause an explosion," he said.
"And what we have said to them is the only way to eliminate the risk is for residents to relocate themselves from their home."
He said between 300 and 400 homes are at risk.
He said an extraction system has been set up and the gas is being removed at a rate of 1200 cubic metres per hour but that has not been enough.

Residents at risk

The residents were notified by the State Government's emergency response team that there was an unacceptable risk to their homes.
Mr Warrington said evacuation is the safest option.
"This is the safest option. This is not the only option. A number made a decision to stay and accept the risk. In doing that we've also advised a number of residents to reduce that risk should they decide to stay."
He said there was a fair amount of emotion and passion when residents were advised of the threat.
"They're quite upset and emotional. And there were issues that vary from health and safety and people are looking for blame and compensation."
"Ultimately we want to make this estate a happy safe place for residents to live. If we can stop the methane going into that estate, that's our ultimate objective, that's we would all like to achieve."

City of Casey Councillor, Kevin Bradford, lives at the estate.
He says the Council originally opposed the housing development but the decision was overturned by the Victorian Civil and Administrative Tribunal.
"Council had an understanding of how gasses are formed from closed landfill sites and wanted more time to install appropriate gas extraction systems which would possibly have prevented the situation we are in now," he said.
The residents have been offered temporary accommodation in motels, subsidised by the Department of Human Services.

Source: http://www.abc.net.au/news/stories/2008/09/11/2361440.htm?site=melbourne

5. Transport (TR)

The transport sector is one of the largest and fastest growing sources of greenhouse gas emissions in Australia.
Source: http://www.ptua.org.au/federal/moving_summary.html

Transport is the second largest producer of greenhouse gas emissions in Victoria, with almost 90% of transport emissions coming from road transport – private vehicles, trucks, buses and commercial vehicles (Department of Premier and Cabinet, 2009).

It is predicted that the most likely area of growth in emissions in the transport sector will come from road transport (trucks, passenger cars and light commercial vehicles (AGO, 2006) (Figure 5).

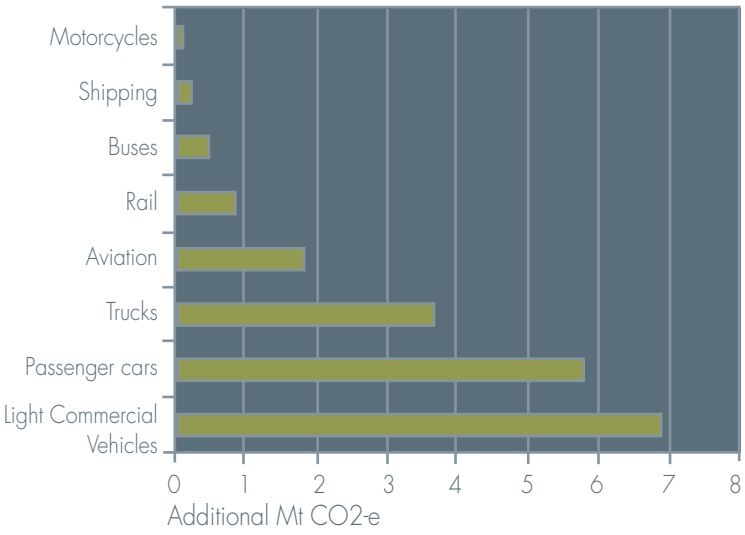


Figure 5. Forecast growth in annual transport emissions from 2005-2020.
Source: AGO 2006

Environmental impacts of our increasing reliance on road transport, coupled with the unstable and rising fuel prices, make transport a high priority issue in our strive for environmental sustainability.

Key measures to improve environmental sustainability and reduce emissions from the transport sector include increased**:**

- Use of public transport;
- Use of alternative means of transport (walking, bicycling, etc);
- Car occupancy rates;
- Freight efficiency; and
- Fuel efficiency.

Drivers for change

There are three essential drivers for improving fuel efficiency and changing the types and availability of transport modes:

- Economic: Cost of fuel (it is predicted that the price of fuel will remain unstable and follow a rising trend as the world demand for oil exceeds supply, ie, Peak Oil);
- Environmental: Greenhouse gas emissions and climate change impacts; and
- Social: improved health and wellbeing of individuals through use of more active modes of transport (bicycles, walking, etc). Replacing car use with walking, cycling and public transport use can contribute to regular physical activity. Regular physical activity is associated with significant reductions in the risk of suffering from obesity, high blood pressure, adult diabetes, depression, adult-onset asthma among women and a range of cancers.
Source: http://www.ptua.org.au/federal/moving_summary.html

Local government role

HRCC has a significant role in the transport sector as:

- Providers of transport infrastructure – roads, bike paths, footpaths, etc.;
- Facilitators of sustainable and equitable transport;
- Land use planner – statutory and strategic planners of the urban and rural environments
- Parking providers – planning and regulating;
- Community education and engagement;
- Advocacy for ratepayers.

In addition, HRCC has its own substantial fleet of vehicles. Based on fuel purchases from June 2008 to May 2009, Mr Dean Robertson (Sustainability Officer, Wimmera-Mallee Sustainability Alliance) calculated that the fleet used 160,605 litres of unleaded petrol and 397,794 litres of diesel. This equates to carbon emissions of 1436 tonnes CO2-e (Carbon Dioxide Equivalents) and approximately 120,000 cubic metres of greenhouse gases.

Achievements to date

Key achievements to date in the area of transport include:

- Trialling of a smaller diesel sedan in the executive fleet.
- Inclusion of small fuel efficient sedans in the fleet.
- Provision of bicycles for use by Council staff to travel around Horsham.
- Advocacy of a commercial airline service between Horsham and Melbourne.
- Scoping for a highway bypass around Horsham.
- Strong support and advocacy for the establishment of a rail freight hub at Dooen.
- Provision of footpaths that link the residential areas of Horsham with the city centre.
- Ongoing consideration of the footpath linkages in new residential developments.

What we want to achieve (Principle Objectives)

HRCC's principle objectives in the area of transport:

- Identify and continually reduce greenhouse gas emissions across all Council operations, including Councils buildings, fleet, public lighting and waste facilities. (5.1)
- Investigate the means of off-setting residual corporate greenhouse gas emissions that cannot be reduced or avoided, with the aim of ultimately achieving carbon neutrality. (5.2)
- Promote reduction of greenhouse gas emissions by households and businesses in the municipality. (5.3)

	Action	Responsible Department	Timeline
Council vehicle fleet			
TR1	Continue to improve fuel efficiency of Council's fleet (including 4-cylinder vehicles, hybrid and diesel technology).	Technical Services	Ongoing as vehicles are replaced
TR2	Monitor fleet fuel consumption and regularly report on vehicle efficiency in terms of CO2-e emissions per 1000km travelled.	Technical Services	Monitoring in place by June 2011. Quarterly reporting.
TR3	Regularly provide information and education on fuel efficient driving to all staff.	Technical Services	Ongoing
TR4	Review vehicles available for staff packages and encourage staff to car pool on trips outside the municipality.	Corporate Services and Economic Development	December 2010
TR5	Investigate use of bio-fuels in fleet or operations (ethanol petrol, biogas and biodiesel).	Technical Services	2013
Monitor performance			
TR6	Monitor and report fuel efficiency of fleet vehicles to staff and encourage staff to use vehicles that are 'fit for purpose'.	Technical Services	Monitoring in place by June 2011. Quarterly reporting.
Alternative forms of transport			
TR7	Provide bicycle facilities (ie, showers, secure bicycle parking) for staff and visitors.	Planning and Promotion Services	June 2011
TR8	Promote Ride to Work Day.	Corporate Services and Economic Development	Annually
TR9	Investigate technological alternatives to road travel (ie, teleconference and video conference facilities) and introduce incentives to encourage staff to make use of them.	Corporate Services and Economic Development	Ongoing
TR10	Introduce public transport incentives for staff.	Corporate Services and Economic Development	2012
TR11	Establish parking bays for motor scooters.	Technical Services	2012
TR12	Continue to lobby for improved bus connections between rural towns and regional centres to ensure access to services, employment and education - as well as enabling access to the intercity regional transport system.	Technical Services	Ongoing
TR13	Continue to lobby for expanding the higher frequency public transport services to all regional centres beyond the regional fast rail network to increase flexibility in employment, access to education and support regional tourism.	Technical Services	Ongoing

Indicators of success (Targets)

Success in the area of transport will be achieved when:

- 50% of passenger vehicles in the Council fleet are low emission (hybrid or 4-cylinder).
- Public transport options, both in town and to regional and metropolitan centres, are enhanced.

6. The built environment (TBE)

The phrase built environment refers to the constructed surroundings that provide the setting for human activity, ranging in scale from personal homes to neighbourhoods to the large-scale civic surroundings.
Source: http://en.wikipedia.org/wiki/Built_environment

Growth in Australia's urban areas is putting pressure on transport, energy, air and water systems and threatening 'liveability' of urban spaces.
Source: http://www.csiro.au/science/UrbanPlanningOverview.html

The environmental impact of buildings and construction is well documented. Local Government across Victoria build, operate and maintain billions of dollars of building assets and as such are in a key position to contribute substantially to environmental sustainability through energy, water and greenhouse savings by improving building construction and operation practices. *http://www.cfd.rmit.edu.au/programs/sustainable_built_environments/the_accelerating_sustainable_building_in_local_government_sector_project*. In addition, Local Government has a leadership role in demonstrating a commitment to sustainability on behalf of their communities.

In 2007, the Centre for International Economics conducted a study on behalf of the Australian Sustainable Built Environment Council. The report, "Capitalising on the building sector's potential to lessen the costs of a broad based greenhouse gas emissions cut", found that:

- The building sector is responsible for 23 per cent of Australia's total greenhouse gas emissions, and energy use in buildings is rapidly growing
- Electricity demand in residential and commercial buildings can be halved by 2030, and reduced by more than 70 per cent by 2050 through energy efficiency.
- Energy efficiency alone could deliver savings of 30-35 per cent across the whole building sector including the growth in the overall number of buildings out to 2050.
- Energy savings in the building sector (which accounts for 60 per cent of GDP and 23 per cent of greenhouse gas emissions) could reduce the costs of greenhouse gas abatement across the whole economy by $30 per tonne, or 14 per cent, by 2050.
- By 2050, GDP could be improved by around $38 billion per year if building sector energy efficiency is adopted, compared to previous economy-wide estimates of the 60 % deep cuts scenario.
  Source: http://www.asbec.asn.au/news/asbec_media

Creating a sustainable built environment will involve policies, decisions and actions across the areas of land use, precinct and building design, transport planning and investment, energy supply and efficiency and community behaviour (Victorian Government Department of Premier and Cabinet, 2009)). We also need to apply emerging technologies and approaches to retrofitting existing buildings and developments.

The key areas for focus for environmental sustainability in the built environment are:

- Planning and urban infrastructure decisions; and
- Buildings.

Achievements to date

Key achievements to date in the area of the built environment include:

- Planning scheme supports sustainable housing design in new developments.
- Revitalising Horsham North through concepts such as the community garden.

What we want to achieve (Principle Objectives)

Key objectives in the area of the built environment:

- Incorporate environmental impact risk assessment and mitigation into the planning of major Council projects. (1.1)
- Incorporate sustainable design into the planning of Council building and refurbishment projects. (1.2)
- Employ and promote water sensitive urban design that improves water quality and retains as much water as possible, for as long as possible, within its natural catchment. (1.6)
- Utilise the Horsham Planning Scheme, infrastructure development guidelines and local laws to improve and enhance the environmental performance of development proposals. (2.4)
- Utilise existing developed land more efficiently to reduce the loss of habitat and productive agricultural land. (3.3)
- Encourage new development to contribute to an energy and resource efficient urban environment. (3.4)
- Encourage subdivision, development, works, building and construction practices within the Council and community that incorporate sound environmental design principles, low impact materials, efficient and renewable energy requirements and the conservation of natural resources. (3.5)

HRCC ACTION PLAN: THE BUILT ENVIRONMENT

	Action	Responsible Department	Timeline
Roads			
TBE1	Where appropriate, use recycled materials (road pavement, concrete, bricks, etc.) in road construction and maintenance.	Technical Services	Ongoing
TBE2	Continue to investigate and trial new technologies for road construction and maintenance that reduce the reliance and trucking in of materials and water.	Technical Services	Ongoing
TBE3	When preparing and reviewing Council's road Management Strategy, consider the environment sustainability implications of the priority for each road.	Technical Services	When review occurs
TBE4	Seal all unsealed roads within the Horsham Rural City Council boundary.	Technical Services	2020
TBE5	Where appropriate, encourage streetscapes to include drought tolerant plant species.	Technical Services	2015
TBE6	Establish an integrated network of footpaths that lead into the city centre.	Technical Services	2014
TBE7	Establish a second footbridge across the Wimmera River to enable people to walk into the city centre from Horsham South.	Technical Services	2015
Stormwater			
TBE8	Review the Regional Urban Stormwater Plan and prepare a Horsham Rural City Council urban stormwater plan that considers the long-term operation and maintenance of stormwater systems and provides clear guidance for future stormwater management.	Technical Services	2012

	Action	Responsible Department	Timeline
Urban planning			
TBE9	Ensure that environmental sustainability is a priority when reviewing the Municipal Strategic Statement.	Planning and Promotion Services	When MSS reviews occur
TBE10	Ensure that environmental sustainability is a priority when reviewing any element of the Horsham Planning Scheme.	Planning and Promotion Services	When reviews occur
TBE11	Ensure that environmental sustainability design principles are incorporated when approving new developments.	Planning and Promotion Services	Ongoing
TBE12	Ensure that environmental sustainability design principles are incorporated when approving new buildings.	Planning and Promotion Services	Ongoing
TBE13	Ensure that environmental sustainability design principles are incorporated when approving refurbishments to existing buildings.	Planning and Promotion Services	Ongoing
TBE14	Review, and where appropriate revise, all standard planning permit conditions to ensure that conditions do not contradict Council's goals of supporting individuals to be environmentally sustainable in their homes and businesses.	Planning and Promotion Services	June 2011
TBE15	When placing conditions on planning permits give consideration to ensuring that conditions do not limit the ability for the proponent to implement all environmental sustainability options available to them at the time of the development.	Planning and Promotion Services	Ongoing
TBE16	Work with referral authorities to review their planning permit conditions to ensure that conditions do not contradict Council's goals of environmental sustainability.	Planning and Promotion Services	December 2011
TBE17	Encourage urban consolidation within Horsham by rezoning land where appropriate and as guided by the Horsham Planning Scheme.	Planning and Promotion Services	Ongoing
Council buildings and facilities			
TBE18	Plant environmentally appropriate and drought tolerant gardens around Council buildings and facilities.	Technical Services	2012
Promotion			
TBE19	Provide opportunities for developers, real estate agents, insurers and commercial and industry operators to participate in design workshops on the latest developments and processes in urban design that incorporates environment sustainability.	Planning and Promotion Services and Technical Services	2 opportunities per year commencing in 2010.
TBE20	Establish signage at popular visitor locations in Horsham (ie, Sawyer Park, May Park) that provides visitors with information on short, scenic walks into the city centre or nearby Wimmera River.	Technical Services	September 2010
Water and sewerage			
TBE21	Sewer all remaining unsewered areas within the Horsham city boundary.	Technical Services	To be determined
TBE22	In conjunction with GWMWater, encourage households to install rainwater tanks.	Planning and Promotion Services	Ongoing

Indicators of success (Targets)

Success in the area of the built environment will be achieved when:

- Environmental risk assessments are being prepared for all major Council projects.
- Best practice sustainable design is incorporated into all new Council building and refurbishment projects.
- 100% of all urban land to be connected to a sewer system by a date to be determined.

Facts and useful information

5-star energy rating

To achieve 5-star (out of 10) energy equivalence rating, install as a minimum:

- 4-star Water Efficiency Labelling and Standards (WELS) rated toilets
- 3-star WELS rated tapware to kitchen sinks, basins and laundry tubs
- energy efficient lighting to 80 per cent of fixed internal light fittings
- water efficient irrigation systems (where an irrigation system is installed)

A community that values the environment (and its health) minimises its impacts, uses resources wisely, and protects biodiversity. Renewable energy is used to power our lifestyles and industry, combined with reliable public transport networks and bicycle and walking paths, which reduce reliance on the car, minimising greenhouse gas emissions. New houses are built to incorporate sustainable design features and older houses are retrofitted to maximize efficiency. Waste is minimised, and waste and water recycled with the overall aim of reducing our ecological footprint to allow sustainable living.

Source: Victorian Community Indicators Project Team, 2006.

7. The rural environment (TRE)

The rural environment of Horsham Rural City Council is fundamental to the economy and amenity of the municipality (HRCC, undated). The rural areas are used extensively for agriculture and also include significant natural features which are valued by residents and attract visitors to the area. The health of the natural resource base is central to the ongoing viability of agriculture (HRCC, undated).

Environmental sustainability is a key issue facing the rural environment of Horsham Rural City Council. As landholders are dealing with climate variability, they are also facing challenges associated with reducing greenhouse gas emissions, minimising environmental degradation from their activities and remaining economically viable.

The changing environment

CSIRO (2008) are predicting the following challenges for landholders and rural communities:

- By 2030, we can expect mean temperatures in the Wimmera-Mallee to have increased by 0.6–1.1°C, and annual rainfall to have decreased by up to 6%, relative to 1990 conditions. As a result, the frequency and severity of droughts in the region is predicted to increase.
- Farm-based modelling studies in the Wimmera-Mallee suggest that, by 2030, without any change in current management practices, wheat yields could decline by up to 18% (compared to average yields for 1980–99), for a warming of 1.1°C and a decrease in annual rainfall of 6%.
- Greater yield variability is predicted for agricultural systems in the Wimmera-Mallee.
- The modelling studies show that introducing or increasing a fallow or pasture component in crop rotations may offset potential yield losses by retaining more available soil moisture. In one continuous cropping system, introducing a fallow improved median yields by up to 30%.
- The modelling studies also show that retaining stubble or enhancing stubble retention is an effective way of offsetting potential yield losses in the region.
- Options such as reducing planting densities, increasing row spacing, and changing to shorter-season varieties were shown to provide few benefits for the farms examined in this region.

CSIRO (2008) suggest that many of the available options for adapting to climate change in the Wimmera-Mallee region are extensions of existing strategies that farmers use to manage climate variability.

Achievements to date

Key achievements to date in the area of the rural environment include:

- Ongoing management of pest plants and animals on Council land.
- Recognition of culturally important sites across the municipality.

What we want to achieve (Principle Objectives)

Key objectives in the area of the rural environment:

- Ensure that Council controlled land is managed in ways that protect and enhance native flora, fauna, natural habitat and indigenous cultural values. (2.1)
- Control and, where possible, eradicate invasive pest plants and animal species on Council managed land. (2.2)
- Implement works practices that limit site disturbance and avoid adverse environmental impacts. (2.3)
- Encourage adoption of sustainable land management practices amongst private landowners, through planning policy guidelines, education and consideration of incentive schemes. (3.2)
- Utilise existing developed land more efficiently to reduce the loss of habitat and productive agricultural land. (3.3)

Action		Responsible Department	Timeline
TRE1	Continue to support Landcare groups across the municipality.	Technical Services	Ongoing
TRE2	Support local value-adding for the region's agricultural and mining industries.	Corporate Services and Economic Development	Ongoing
TRE3	Support local production and selling of food and produce.	Corporate Services and Economic Development	Ongoing

Indicators of success (Targets)

Success in the area of the rural environment will be achieved when:

- An environmental management system is in place and being implemented for all Council operations.
- There is a good working relationship with traditional owners.
- Planning scheme supports appropriate use of rural land across the municipality.

8. The natural environment (TNE)

The natural environment, commonly referred to simply as the environment, is a term that encompasses all living and non-living things occurring naturally on earth or some region thereof.
Source: http://en.wikipedia.org/wiki/Natural_environment

Our community's lifestyle, health and wellbeing relies on a robust and healthy natural environment that provides a range of services such as clean water, a stable climate, productive land, and fisheries. Energy and material resources, which come from the environment, also significantly contribute to our health, wealth and wellbeing. The environment is also used for recreation, and many places have cultural importance to our communities.

The 2008 Victorian State of the Environment Report (Commissioner for Environmental Sustainability, 2008) states that our natural environment is degraded, and is getting worse.

The Commissioner for Environmental Sustainability goes on to say that, "Our way of life continues to be maintained and enhanced through the gradual degradation of our natural environment. The environmental services we rely on are already damaged by human activities and past management, and will further degrade if we continue with current approaches.

Why should local government participate in managing the natural environment?

The Local Government Act 1989 defines the primary objective of a Council is to endeavour to achieve the best outcomes for the local community having regard to the long-term and cumulative effects of decisions.

In seeking to achieve the primary objective, a Council must have regard to a number of goals including to promote the social, economic and environmental viability and sustainability of the municipal district.

Managing our natural resources in a sustainable way provides a range of benefits that contribute to healthy and sustainable communities, including, but are not limited to:

- Clean air for breathing;
- Good quality water for drinking;
- Healthy waterways and groundwater systems;
- Healthy and productive soils and prevention of soil erosion health;
- Pest control (eg, insects);
- Pollination of both native vegetation and crops; and
- Regulating the climate.

How can local government contribute to the natural environment outcomes?

Local government has statutory roles and undertakes non-statutory activities that directly and indirectly influence the natural environment outcomes.

Some of the tools available to Councils are:

- Land Use Planning and Development Control: Strengthening the Municipal Strategic Statement (MSS), local policies and planning controls to protect environmental assets.
- Incentives: Rate rebates or differential rates, grants, developer contributions, environment levies, equipment loans, giveaways (indigenous plants), community environment awards, environmental management agreements, subsidised training.
- Management Activities and On-ground Works: Parks and reserves including roadsides, native vegetation, pest plants and animals, environmental management protocols, water quality management eg, stormwater and domestic wastewater, Waterwatch.
- Education: Information products, education forums, seminars and community activities, technical advice, websites.
- Community Partnerships and Support: Landcare, community group coordination and support (eg, friends groups), agreements (eg, Section 173), conservation covenants (eg, Trust for Nature), local initiatives/community programs (eg, gardens for wildlife).
- Enforcement: Local laws for reserve and park protection, land clearing/native vegetation removal, water management (stormwater), tree preservation, wetland management, pest plant and animal management.

Achievements to date

Key achievements in the area of the natural environment include:

- Establishment and ongoing support for the Wimmera River Improvement Committee;
- Establishment and ongoing support of the Grampians to Little Dessert Biolink Committee;
- Yearly programs to encourage ratepayers to plant native vegetation on their properties;
- Ongoing support for landcare groups in the municipality.

What we want to achieve (Principle Objectives)

Key objectives in the area of the natural environment:

- Identify and manage risks to Council-managed natural assets associated with potential adverse impacts of climate change. (2.5)
- Reduce the impact of effluent on waterway and environmental health. (2.6)
- Work in partnership with other land and catchment management agencies and private landowners to better coordinate environmental protection and enhancement. (3.1b)
- Utilise existing developed land more efficiently to reduce the loss of habitat and productive agricultural land. (3.3)
- Provide opportunities and facilities for the safe disposal of chemicals and materials that are toxic and/or hazardous to the environment. (5.5)
- Prevent storm water runoff containing litter and contaminants from entering waterways. (5.6)

Action		Responsible Department	Timeline
Landcare			
TNE1	Continue to support Landcare groups and the Landcare Officer.	Technical Services	Ongoing
Environmental management system			
TNE2	Establish and implement an environmental management system for Council operations.	Technical Services	December 2010
TNE3	Incorporate best practice environmental management into all Council operations.	All Departments	Ongoing
TNE4	Provide staff with training on best practice environmental management.	Corporate Services and Economic Development	Ongoing
TNE5	Engage staff in discussions on a regular basis about how their individual work practices could be more environmentally sustainable.	All	Ongoing
Information			
TNE6	Provide staff with ready access to GIS mapping of key environmental assets and cultural heritage assets.	Technical Services	December 2010
Roadside management			
TNE7	Implement priority actions in the Roadside Vegetation Management Plan.	Technical Services	Refer to timeline in Roadside Management Plan

Indicators of success (Targets)

Success in the area of the natural environment will be achieved when:

- The Grampians to Little Desert Biolink is complete.
- Sound environmental management procedures are established in all areas of operations.
- Priority actions in the roadside vegetation management strategy are implemented.
- Effective partnerships with key catchment and environmental management agencies and groups are established.
- A working environmental management system is developed.
- All operations include an environmental checklist.

9. Community lifestyle, health and wellbeing (CLHW)

The Victorian Commissioner for Environmental Sustainability (Commissioner for Environmental Sustainability, 2008) states:

> "While our wellbeing is currently widely understood to depend on the health of the economy, ultimately, the economy itself depends upon the health of the natural environment. In order for Victorians to live well into the future, wellbeing must be decoupled from environmental pressures.
>
> "To do this we need to focus on both current and future patterns and actions. Particularly, we need to greatly improve monitoring of our progress towards a more sustainable way of life.
>
> "Fundamental concepts such as 'decoupling' (the action of disassociating environmental degradation from wellbeing, by reducing the environmental impact of the production and consumption of goods and services), and building resilience (the adaptive capacity of systems to respond to pressures), should be integrated into government policy at the highest level. Above all we must not be lulled into an acceptance of the gradual deterioration of environmental values which characterised the 20th century."

Our changing climate and degrading environment presents a significant and emerging threat to community lifestyle, health and wellbeing. Publications by the World Health Organisation, Australian Greenhouse Office and health studies across Australia have identified numerous direct and indirect community impacts from climate change and not living sustainably. Some of these include:

- Increased cost of living;
- Increased health costs and impacts;
- Increased insurance costs;
- Extreme event related lifestyle and health effects;
- Increased risk of bushfires; and
- Inequality.

Achievements to date

Key achievements in the area of community lifestyle, health and wellbeing include:

- Supporting the Wimmera Primary Care Partnership to develop a heatwave strategy.
- Empowering local communities to take action to reduce their ecological and carbon footprint through community development projects.
- Inclusion of key walkability actions in the Municipal Health Plan.

What we want to achieve (Principle Objectives)

Principle objectives in the area of community lifestyle, health and wellbeing:

- Support low-income householders in their efforts to be more environmentally sustainable in their homes. (4.5)
- Encourage residents and visitors to use alternative means of transport in their everyday activities and travel outside the region. (4.6)
- Promote the use of walking tracks and bicycle paths. (4.7)

	Action	Responsible Department	Timeline
Walkability			
CLHW1	Continue to support Landcare groups and the Landcare Officer.	Technical Services	Ongoing
CLHW2	Promote the use of walking/bicycle tracks by locals and visitors.	Planning and Promotion Services	Ongoing
Inequality			
CLHW3	Identify barriers for low-income households and people in vulnerable communities in adapting to climate change, and reduce their exposure to increased costs of essential goods and services.	Community and Enterprise Services	June 2011
CLHW4	Investigate options to remove barriers for low-income households and people in vulnerable communities to implement changes in their homes and lifestyle to reduce costs of essential goods and services.	Community and Enterprise Services	2011
CLHW5	Seek funding to provide additional support services to the most vulnerable in communities during heatwaves.	Community and Enterprise Services	November 2010

Indicators of success (Targets)

Success in the area of community lifestyle, health and wellbeing will be achieved when:

- Heatwave strategies are developed and implemented.
- Walking/bicycle tracks are established to link all residential areas of Horsham to the town centre and key community facilities.

Facts and useful information

What is Walkability?

Walkability is a measure of how friendly an area is to walking.
Source: http://en.wikipedia.org/wiki/Walkability

Walkability = safe, comfortable, interesting

10. Extreme natural events (ENE)

In recent years communities around Australia have experienced severe floods, the devastation of intense fires, heatwaves and ferocious storms. Scientists and politicians alike believe that these extreme events will become more common as we continue to see the impacts of climate change take effect.

Examples of how climate change could affect extreme events include (AGO, 2006):

- more frequent very hot days;
- more frequent and longer droughts;
- more frequent and larger floods;
- more frequent and more intense heavy rain;
- more intense storms; and
- higher peak wind speeds.

Table 1 provides an indication of the likely changes in damage/losses as a result of some of the more commonly experienced extreme events.

Table 1: The cause and resulting change in damage/loss as a result of increased extreme events.

Hazard	Cause of Change in Hazard	Resulting Change in Damage/Loss
Windstorm	Doubling of windspeed 2.2oC temperature increase	Four-fold increase in damages Increase of 5 – 10% in hurricane wind speeds
Floods	25% increase in 30 minute precipitation events	Flooding return period reduced from 100 years to 17 years
Bushfire	1oC mean temperature increase Doubling of CO2	28% increase in wildfires 143% increase in catastrophic wildfires

Source: Coleman (2003)

Local government role

Local Government has a wide range of responsibilities in all stages:
Before: Prevention, Mitigation and Risk Reduction,
During: Response, and
After: Recovery, of Victoria's emergency management arrangements both legislative and through the Emergency Management Manual Victoria (EMMV).

Some of these responsibilities are legislated in the Emergency Management Act 1986, the Country Fire Authority Act 1958, the Water Act 1989, and the Health Act 1958 and others are designated through the EMMV.

In essence, local governments plan and coordinate local resources/efforts to:

- Support emergency services; and
- Provide community support and recovery role.

Achievements to date

Key achievements to date in the area of preparing for, responding to and recovering from extreme events include:

- Maintenance of a Municipal Emergency Response Manual.
- Appointment of a Municipal Emergency Response Officer (MERO).
- Appointment of a fire recovery officer.
- Development of a strategy to assist in the coordination of recovery activities.

What we want to achieve (Principle Objectives)

Principle objectives in the area of preparing for, responding to and recovering from extreme events:

- Work in partnership with other land and catchment management agencies and private landowners to balance environmental protection with the need to address community safety obligations in respect to fire and emergency management and road safety. (3.1a)
- Plan for responding to extreme events and supporting the community to recover. (1.11)

HRCC ACTION PLAN: EXTREME NATURAL EVENTS

Action		Responsible Department	Timeline
ENE1	Develop a Volunteer Management System that captures all key details of available volunteers, maintains up-to-date information and provides details of skills, training, availability etc.	Community and Enterprise Services	December 2010
ENE2	Plan for the necessary long-term support for communities recovering from extreme events.	Community and Enterprise Services	September 2011

Indicators of success (Targets)

Success in the area of preparing for, responding to and recovering from extreme events will be achieved when:

- There are established plans to support the community to recover from extreme events.

C: IMPLEMENTATION

C1: Implementing the strategy

HRCC has a range of tools available to effectively implement the strategy, including:

- HRCC Council Plan 20009-2013;
- State, regional and Council strategic plans, management plans and policies;
- Acts of Parliament including The Planning and Environment Act 1987 and The Local Government Act 1989;
- Horsham Planning Scheme;
- Local laws;
- The ability to provide and source resources and funding from various Australian and Victorian Government initiatives;
- Skilled staff to prepare and implement the necessary projects and programs; and
- Committed and active community groups and individuals who can develop and implement projects and programs in their local areas.

Actions within the Strategy will form part of the Council departmental work plans and reporting procedures.

To enable efficient implementation of the Environment Sustainability Strategy within the context of the Council Plan, all actions will be reviewed annually with a four-year review of the entire Strategy.

C2: Measuring our success

HRCC is committed to demonstrating its achievements towards environmental sustainability through establishing key baselines and using indicators and targets to communicate progress.

Principle 1. Lead by example

Objective	Indicator	Baseline X in 200x/xx	Target
1.1 Incorporate environmental impact risk assessment and mitigation into the planning of major Council projects.	Environmental Risk Assessment	0	Environmental impact risk assessments to be prepared for all major Council projects prior to project commencement.
1.2 Incorporate sustainable design into the planning of Council building and refurbishment projects.	Sustainable design	1 Redevelopment of Horsham Town Hall and Horsham Regional Art Gallery	Best practice sustainable design to be incorporated into all new building and building refurbishment projects.
1.3 Identify and manage risks to Council-managed natural assets associated with the potential adverse impacts of climate change.	Not applicable, general business.		
1.4 Develop procurement policies that give preference to environmentally friendly products (green, recycled) and services, where value for money is not compromised.	Environmental purchasing policy	0	Develop and implement environmental purchasing policy by December 2010.
	Environmental specifications in contracts for purchasing goods and services	0	Develop and implement environmental specifications for procurement of goods and services by December 2010.
1.5 Reduce Council's water consumption through development and implementation of improved efficiency measures.	Water consumption	To be established	Water consumption by Council in its buildings and operations is reduced by 20% by 2015, compared to 2010 baseline.
1.6 Investigate the utilisation of alternative water supplies in Council's operations, including recycled storm water, rainwater and wastewater.	% of total water used in Council operations that is mains water	To be established	Establish target (x% of total water used in Council operations is mains water by 2015) by June 2010.
1.7 Investigate the utilisation of alternative water supplies in Council's operations, including recycled storm water, rainwater and wastewater.	% of total water used in Council operations that is mains water	To be established	Establish target (x% of total water used in Council operations is mains water by 2015) by June 2010
1.8 Increase the capacity of Council employees to assess and refine work practices to improve environmental sustainability performance.	% of staff trained in environmental sustainability practices	To be established	100% of staff trained in environmental sustainable practices by June 2011.

Principle 2. Protect what we value

Objective	Indicator	Baseline X in 200x/xx	Target
2.1 Ensure Council controlled land is managed in ways that protect and enhance native flora, fauna, natural habitat and indigenous cultural values.	Environment Management System	No system in place	Develop and implement an environmental management system for all Council operations.
2.2 Control and, where possible, eradicate invasive pest plants and animal species on Council managed land.	% of land impacted by invasive plants and animals	To be established	To be developed by June 2010.
2.3 Implement works practices that limit site disturbance and avoid adverse environmental impacts.	Works practices documented and implemented	No works practices documented	To be developed by June 2010.
2.4 Utilise the Horsham Planning Scheme, infrastructure development guidelines and local laws to improve and enhance the environmental performance of development proposals.	Not applicable, general business.		
2.5 Identify and manage risks to Council-managed natural assets associated with potential adverse impacts of climate change.	Not applicable, general business.		
2.16 Reduce the impact of effluent on waterway and environmental health.	% of urban land connected to the sewer system.	To be established	100% of all urban land to be connected to a sewer system by (to be determined).

Principle 3. Improve what we have

Objective	Indicator	Baseline X in 200x/xx	Target
3.1 Work in partnership with other land and catchment management agencies and private landowners to: a. better coordinate environmental protection and enhancement; and b. balance environmental protection with the need to address community safety obligations in respect to fire and emergency management and road safety.	Not applicable, general business.		
3.2 Encourage the adoption of sustainable land management practices among private landowners, through planning policy guidelines, education and consideration of incentive schemes.	Not applicable, general business.		
3.3 Utilise existing developed land more efficiently to reduce the loss of habitat and productive agricultural land.	Not applicable, general business.		
3.4 Encourage new development to contribute to an energy and resource efficient urban environment.	Not applicable, general business.		
3.5 Encourage subdivision, development, works, building and construction practices within Council and community that incorporate sound environmental design principles, low impact materials, efficient and renewable energy requirements and the conservation of natural resources.	Environmental assessments	To be established	Environmental assessments integrated into all Council decision-making processes and operations by December 2010.

Principle 4. Reduce what we use

Objective	Indicator	Baseline X in 200x/xx	Target
4.1 Reduce consumption of goods and materials across the organisation.	Total office based waste generated (kg)/FTE	X kg/FTE in 2009/2010 to be established	Targets for solid waste reduction to be developed by June 2010.
	Total office based recycling rate	X % in 2009/2010 to be established	
	No. of reams of paper used/FTE	X reams per FTE used in 2009/2010	
	Contamination in office recycling bins	X % contamination in 2009/2010 to be established	Contamination in office recycling bins reduced from 20% to 5% by December 2010.
	% of paper in landfill bins in office.	To be established	100% of all recyclable paper eliminated from landfill waste bins by June 2010.
4.2 Reduce Council's water consumption through the development and implementation of improved efficiency measures.	Water consumption	To be established	Council water consumption in its buildings and operations is reduced by 20% by 2015, compared to 2010 baseline.
4.3 Implement efficiency measures to reduce Council's consumption of energy derived from fossil fuels.	Energy (electricity and gas) consumption	In 2007, total electricity consumption was 112,610 kWh. In 2007, total gas consumption was 632 Gigajoules.	Reduce energy consumption from 2007/08 baseline continuously over the three years to 2013. Reduce energy consumption by 20% from Council's key activities by June 2015, compared to 2010 baseline.
4.4 Encourage the community and industry to conserve water, energy and the use of natural resources.	Low water use gardens	No. at 2009/2010	Low water use gardens and plants are established throughout the public open spaces in the municipality by 2015.
4.5 Support low-income householders in their efforts to be more environmentally sustainable in their homes.	Not applicable, general business.		
4.6 Encourage residents and visitors to use alternative means of transport in their everyday activities and travel outside the region.	Not applicable, general business.		
4.7 Promote the use of walking tracks and bicycle paths.	Not applicable, general business.		

Objective	Indicator	Baseline X in 200x/xx	Target
4.8 Reduce the volume of Council's corporate waste through recycling and reuse.	Recycling of office equipment	To be established	80% of office equipment, furniture, etc. diverted from landfill by December 2010.
	Recycling of mobile phones	To be established	100% of mobile phones either reused or recycled by June 2010.
	% of printer cartridges that are recycled	% of printer cartridges that are recycled To be established	100% of printer cartridges are recycled/reused by December 2010.
	% cardboard packaging in purchased goods	To be established	Cardboard packaging used for items delivered to Council reduced by 60% by December 2010.

Principle 5. Minimise what we leave

Objective	Indicator	Baseline X in 200x/xx	Target
5.1 Identify and continually reduce greenhouse gas emissions across all Council operations, including Council buildings, fleet, public lighting and waste facilities. 5.2 Investigate offsetting residual corporate greenhouse gas emissions that cannot be reduced or avoided, with the aim of achieving carbon neutrality. 5.3 Promote reduction of greenhouse gas emissions by households and businesses in the municipality.	Greenhouse gas production	To be established	Establish target for greenhouse gas reduction (x% reduction in greenhouse gases from baseline by 2015) by June 2010.
	% of passenger vehicles in Council fleet that are low emission	To be established	50% of passenger vehicles in the fleet are LPG or low emission (hybrid or 4-cylinder) by June 2012.
5.4 Maximise the recovery of all reusable or recyclable resources from all municipal waste streams.	% of households with recycling bins	X % in 2009/2010 to be established	100 % of households where a kerbside recycling service is provided have a recycling bin and actively recycles their solid waste by 2012.
	Volume of organic waste going to landfill	To be established	Targets for a reduction in the volume of organic waste going to landfill (x % reduction in the volume of organic waste going to landfill by xxxx) developed by June 2010.

Objective	Indicator	Baseline X in 200x/xx	Target
5.5 Provide opportunities and facilities for the safe disposal of chemicals and materials that are toxic and/or hazardous to the environment.	Number of opportunities	To be established	Bi-monthly opportunities provided throughout the municipality for safe disposal of chemicals and materials.
5.6 Prevent storm water runoff containing litter and contaminants from entering waterways.	Number of stormwater outlets with gross pollutant traps	To be established	100% of stormwater outlets to have working gross pollutant traps installed by June 2010.

Principle 6. Share what we learn

Objective	Indicator	Baseline X in 200x/xx	Target
6.1 Implement community education initiatives that encourage waste minimisation, litter prevention and recycling.	% of waste recycled	X % in 2009/2010 to be established	The proportion of waste recycled is increased to 85% by 2020, compared to 2009/2010 baseline.
	Kg of litter picked up	To be established	50% reduction in littering behaviour by 2015.
6.2 Ensure open communication of Council's environmental sustainability practices and performance.	Reports on achievements	Annual reporting	Quarterly internal and external reports on achievements by June 2010
6.3 Encourage and support Council's volunteer Section 86 committees of management to adopt sound environmentally sustainable practices.	Not applicable, general business.		
6.4 Establish collaborative partnerships with the community, other Local Government bodies, business groups and relevant organisations that promote environmental sustainability.	Not applicable, general business.		
6.5 Utilise Council's communication mediums and community networks to promote environmental sustainability practices to the wider community.	Number of media releases and advertisements	To be established	24 media releases and advertisements per year with a focus on environmental sustainability practices.
6.6 Advocate on behalf of the local community to other agencies and levels of government on issues of local environmental sustainability concern.	Not applicable, general business.		
6.7 Support events and programs in the community that promote the awareness of environmental sustainability issues.	Number of events.	To be established	Four community events that promote environmental sustainability supported per year.

C3: Monitoring, reporting and reviewing

Implementation of the actions in this strategy will be measured and reported through the Council's corporate performance monitoring process.

In addition to monitoring delivery performance, HRCC will also measure and report on a number of indicators, which over time, will provide insight as to whether implementation of the Strategy is achieving a more environmentally sustainable municipality.

Council recognises that the priorities and expectations for environment sustainability may change over time. There may even be emerging issues not currently recognised in the Strategy that require urgent attention. For these reasons Council has established the Strategy as a living document that will be regularly reviewed. Council will review the actions within the Strategy annually and the overall strategy every four years in line with the Council Plan.

This review schedule will provide Council with an opportunity to revisit external drivers – national and state – and trends in environmental sustainability priorities. This will also allow Council and its community to adequately consider new and emerging issues and/or policy positions in response to such changes.

Achievements and work towards meeting targets will be reported as part of Council's Annual Report.

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APPENDIX 1: STRATEGIC CONTEXT

The Horsham Rural City Council Environment Sustainability Strategy is guided by the direction given in the Victorian Governments policies and strategies and builds on the objectives in the Council Plan 2009-2013.

Victorian policies and strategies

Since 2002, the Victorian Government has made a strong commitment to environmental sustainability.

Strategy	Overview
Our Water Our Future (2004)	In 2004, the Victorian Government put in place a long-term plan for water - *Our Water Our Future*. *Our Water Our Future* sets out 110 initiatives for water conservation aimed at every sector of the community, seeking to provide water to sustain growth over the next 50 years.
Our Environment Our Future – Environmental Sustainability Framework (2005)	In 2005, the Government launched Victoria's Environmental Sustainability Framework. The *Our Environment Our Future – Environmental Sustainability Framework* (April 2005): • 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.
Our Environment Our Future – Environmental Sustainability Action Statement (2006)	Following on from the Environment Sustainability Framework, the *Our Environment Our Future – Environmental Sustainability Action Statement* (July 2006) is a key step by which the Victorian Government is integrating sustainability in its activities and programs. The ResourceSmart Government program is the key strategy by which this commitment is being implemented.
Towards Zero Waste Strategy (2005)	The Victorian Government's Towards Zero Waste Strategy sets out objectives and targets to encourage new processing and recovery technology to generate less waste, increase the amount of recycling and reprocessing, and reduce the damage to the environment caused by waste. Councils have a key role in implementing the strategy.
Tackling Climate Change – Helping Families Play Their Part (2006)	Tackling Climate Change – Helping Families Play Their Part (September 2006) is a Labor Party election policy commitment with requirements to further improve energy efficiency and the sustainability of procurement processes in Government departments and agencies.
Victorian Climate Change Green Paper (2009)	Released in June 2009, the Victorian Climate Change Green Paper is the Government's next step in response to climate change. The Green Paper is intended to stimulate discussion about the Victorian Governments policy response to climate change. The proposed policy response is based on focusing action in three key areas: 1. Complementing the proposed national Carbon Pollution Reduction Scheme (CPRS) to drive emissions reduction in areas of market failure or those sectors not covered by the CPRS; 2. Positioning Victoria to take advantage of the opportunities created by the transition to a carbon constrained economy; and 3. Adapting to the impacts of climate change that can no longer be avoided.

Regional policies and strategies

Regional policies and strategies will provide Council with significant guidance and support in implementing its environmental sustainability objectives.

Strategy	Overview
Regional Catchment Strategies – Glenelg-Hopkins (2002) and Wimmera (2003)	While most of Horsham Rural City Council is within the Wimmera Catchment Management Authority region, a section of the southern part of the municipality is within the Glenelg-Hopkins Catchment Management Authority. Each Regional Catchment Strategy outlines strategies and actions for natural resource management in the catchments of the Wimmera, Glenelg and Hopkins rivers. The strategies also identify roles for local government in natural resource management.
Grampians Regional Waste Management Strategy (Draft 2009)	Regional Waste Management Groups are responsible for planning the management of municipal solid waste in Victoria. The Grampians Regional Waste Management Group encompasses the municipalities of Yarriambiack, Horsham, Ararat and Northern Grampians. The group coordinates and directs waste management activities of its member Councils and has a regional waste management strategy.
Western Region Sustainable Water Strategy (under development)	The Western Region Sustainable Water Strategy is one of four regional strategies being developed by the Victorian Government to secure water resources for the next 50 years. The Strategy will respond to pressures facing water resources including climate change, drought and land use change. Ultimately, the Western Region Sustainable Water Strategy will aim to provide water security for urban and rural water users, our rivers and aquifers in the Western Region.

Horsham Rural City Council policies and strategies

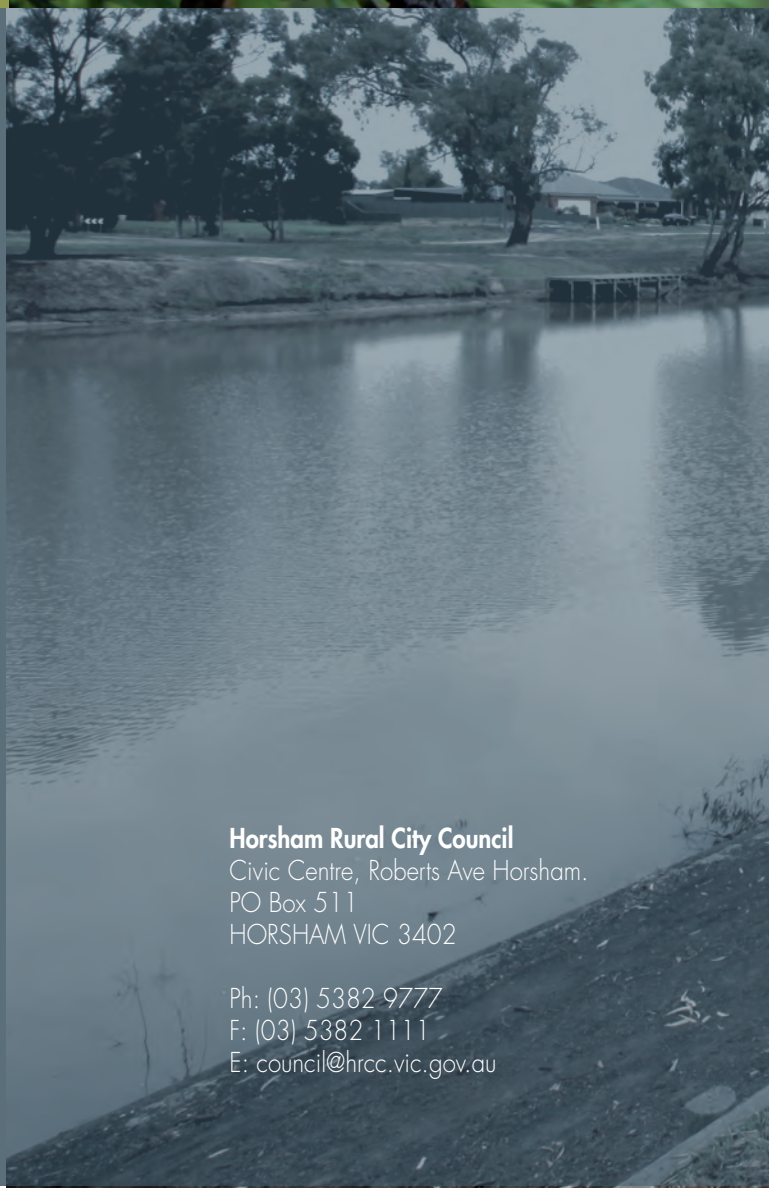
The Environment Sustainability Strategy sits within HRCC's strategic framework and provides detail to the strategic directions in the Council Plan 2009-2013 (Figure A1).

Figure A1. Strategy context within Horsham Rural City Council framework.

Strategy	Overview
Council Plan 2009-2013 (2009)	A strategic document that provides direction to management and highlights Council's key activities. A tool to communicate to the community the long term actions that will be implemented in the next four years, the priorities to be achieved in 2009/2010 and the indicators Council will use to monitor progress on the plan.
Horsham Planning Scheme (undated)	Sets out policies and requirements for the use, development and protection of land within the municipality.
Roadside Vegetation Management Plan (2008)	The Plan was developed to assist Council with the management of vegetation along roadsides that are Council responsibility. The Plan provides strategic guidelines for the protection and enhancement of natural biodiversity, cultural heritage, aesthetic appearance and community values of roadsides within Horsham Rural City Council, while providing a safe and efficient transport, communication, utility and service corridor.

Horsham Rural City Council partnerships and memberships

Strategy	Overview
Member of ICLEI (International Council for Local Environmental Initiatives)	ICLEI - Local Governments for Sustainability is an international association of local governments as well as national and regional local government organisations that have made a commitment to sustainable development.
Member of Wimmera Mallee Sustainability Alliance	The Wimmera Mallee Sustainability Alliance was formed in 2007 in response to the need for additional resources to assist local governments to respond to climate change.



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