

Maroondah Sustainability Strategy 2009

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1 Terms of Sustainability

This document contains a number of technical terms or acronyms that relate to specifically to the area of sustainability. To assist in understanding the Sustainability Strategy the following glossary of terms is provided.

Best Practice - Managing and implementing activities in ways that are designed to achieve agreed and beneficial environmental outcomes and performance targets.

Biodiversity - The variety of living organisms, the genetic differences among them and the communities and ecosystems in which they occur. It is the natural wealth of the earth, which supplies all of our food and much of our shelter and raw materials.

Carbon Neutral – For Maroondah, Carbon Neutral means reducing its greenhouse emissions from gas and electricity used at Council owned facilities, streetlighting, corporate waste disposal and vehicle fuel use. It will be achieved through a combination of energy efficiency and behaviour change, use of renewable energy, and carbon offsets.

Carbon Sink - Long-term stable stores of carbon usually secured from the atmosphere through photosynthesis (ie forests, tree plantations).

Catchment - An area of land that drains naturally to its lowest point.

Cities for Climate Protection Program (CCP) - An international program initiated by the International Council for Local Environmental Initiatives (ICLEI), and now being run by Council's around Australia.

Climate Change - A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Commingled Materials - Materials all mixed together such as plastic bottles with paper, glass and metal containers. Commingled recyclable materials require sorting after collection before they can be recycled.

Conservation - The protection, preservation and careful management of natural resources.

Contaminated Site - Land which has hazardous substances occurring at concentrations above background levels and where assessment indicates it poses or is likely to pose an immediate or long-term hazard to human health or the environment.

Eastern Transport Coalition – a group of regional councils that advocate for improved integrated public transport network for the outer eastern suburbs of Melbourne.

Ecological footprint - A concept that defines a theoretical area of land (hectares per person) needed to provide products for human consumption as well as that required for waste disposal.

Ecologically Sustainable Development (ESD) - Using, conserving and enhancing the community's resources so that ecological processes are maintained and the total quality of life now and in the future can be increased.

Ecosystem - A community of organisms interacting with one another plus the environment in which they live and with which they also interact.

Environmental Weed - A weed is a plant out of place. Most pest plants or environmental weeds are plants that have spread from the home garden into bushland and roadsides areas.

EVC – Ecological Vegetation Class is a unit of a particular floristic community or vegetation type. It is based on details such as plant species, community structure, rainfall, geology and soil type of a particular unit of vegetation.

Fauna - The collective name for the animals or animal life of any particular region.

Flora - The collective name for the plants or plant life of any particular region.

Greenhouse Effect/Global Warming - The greenhouse effect is a natural process whereby some of the sun's heat warms the atmosphere and without which the earth would be too cold to support life as we know it. Gases which are effective in retaining the sun's heat are: Carbon dioxide which is released from burning wood, coal, oil or gas; methane which is derived from rotting vegetation and CFC's which are artificial gases. With large quantities of these gases being released there is concern there will be warming of the earth's atmosphere impacting on long-term changes to the climate.

Green Power - Energy derived from renewable resources. (ie wind, water, solar, biomass)

Grey Water - Domestic wastewater from washing machines, basins, baths and showers.

Gross Pollutant Trap (GPT) - A structural device placed within the stormwater drainage system to collect litter and debris washed into drains.

Habitat - The normal abode or locality of an animal or plant.

Indigenous - Native or original to an area, not introduced from outside the particular region or environment.

Integrated Catchment Management - The management of all the components of catchment assets and their inter-relationships in a cooperative and coordinated manner.

Land for Wildlife Scheme - A State Government program that encourages landowners to promote their land as a valuable haven for wildlife.

LEV – Low Emission Vehicle. A vehicle that emits reduced greenhouse gas emissions compared to others of a similar type and/or function.

Life Cycle Assessment (LCC) - Life cycle assessment is a tool for assessing the environmental impacts associated with a product, process or service throughout its

life cycle, from the extraction of the raw materials through to processing, transport, use, reuse, recycling or disposal. For each of these stages, the impact is measured in terms of resources used and environmental impacts caused.

Municipal Strategic Statement (MCC) - Is a concise statement of the key strategic planning, land use and development objectives for the municipality and the strategies and actions for achieving the objectives. It is within the Local Planning Policy Framework of the Maroondah Planning Scheme.

Net Gain - is where, over a specified area and period of time, losses of native vegetation and habitat, as measured by a combined quality-quantity measure (habitat hectare), are reduced, minimised and more than offset by commensurate gains. Net gain of native vegetation is a policy of the Victorian Government.

Non-renewable resource - Resources with finite stocks that can be used up or depleted to such a degree that further recovery is too expensive.

Noxious Weed - A plant proclaimed under the *Catchment and Land Protection Act 1994*.

Ozone Depletion - The destruction of ozone molecules by Chloro-fluoro-carbons (CFC's), halons, Hydro-chloro-fluoro-carbons (HCFC's) and Hydro-fluoro-carbons (HFC's). This affects the ability of the ozone layer to absorb radiation.

Peak Oil - Peak Oil is the point in time where worldwide oil production is at its highest level. After this point, oil production will decline.

Resource Recovery - The process of obtaining matter or energy from waste.

Remnant Vegetation - Any patch of native indigenous vegetation remaining in an area where most or all of the original distribution has been removed.

Renewable Resource - Natural resources that come from an essentially inexhaustible source (ie solar energy from the sun).

Riparian - The area adjacent to the edge of a waterway, including the banks.

Salinity - The presence of salt in the soil as a result of a high water table rising to the surface and carrying salts with it.

Stormwater - Is runoff from hard surfaces like roads, roofs, pavements and car parks.

Sustainability - The simultaneous pursuit of economic prosperity, social equity and environmental quality.

VOCs – Volatile Organic Compounds are chemical compounds that have high enough vapour pressures under normal conditions to significantly vaporise and enter the air. These can impact on health, particularly respiratory functions.

Water Sensitive Urban Design (WSUD) - A philosophical approach to urban planning and design that aims to minimise the hydrological effect of urban development on the surrounding environment.

Wetlands - Areas of either permanent or ephemeral (temporary) shallow flooding with water that can be fresh, brackish or saline.

Wildlife Corridor - A vegetated strip of land linking wildlife habitat areas.

Triple Bottom Line - The concept of using a range of economic, environmental and social parameters together to measure outcomes or performance.

Trust for Nature 'Conservation Covenant' Program - A voluntary program where covenants (development restrictions) are placed on the title of a property to protect it from future development and loss of vegetation and habitat.

2 Introduction

Ecologically sustainable development has become a key goal throughout governments across the world in recent decades. Climate change, land degradation, loss of species and ecosystems, depletion and pollution of water resources, air pollution and waste generation are symptoms of a society and economy out of balance with the environment. Ecologically sustainable development, or sustainability, aims to simultaneously integrate environmental, social and economic factors into decision-making to protect and enhance the environment and sustain ecological processes.

Council believes urgent action is required to prevent continued environmental degradation.

The Maroondah Sustainability Strategy provides directions for Council to protect and enhance all facets of the environment and create a sustainable community. It is a key document that expands on the Council's vision:

'Maroondah will be a vibrant city. It will have an active community, a strong local economy and a diverse cultural life in a prosperous and sustainable environment.'

The Maroondah community identified three principles in the Council Plan to apply to all strategies and decisions employed to achieve the vision.

The principles set by the community are:

SOCIAL: Fostering a high level of community wellbeing and growth whilst ensuring access and equity.

ENVIRONMENTAL: Ensuring an attractive, diverse and healthy environment and the sustainable use of resources.

ECONOMIC: Achieving levels and types of economic investment that enable desired social and environmental outcomes.

2.1 Strategic policy

The Maroondah Sustainability Strategy expands on these social, environmental and economic principles and forms a core part of the Council's strategic planning framework and will ensure a coordinated approach to sustainability. The Strategy will guide decision-making and the integration of sustainability into Council's procedures and operations.

The broad objectives of this strategy are:

- Protection, rehabilitation and maintenance of the natural environment;
- Promotion and incorporation of resource efficiency throughout council and the community; and
- Education, promotion and incorporation of sustainability throughout council and the community.

This document builds on the previous Maroondah Environmental Strategy 2003-2006 and the 1997 Branching Out: An Environmental Strategy for Maroondah. Targets and indicators have been introduced into the strategy to enable the measurement of Council Actions.

Actions will be set out in an annual 'Sustainability Action Plan' along with an annual 'Sustainability Review'. The review will monitor the implementation of actions from the previous year. This method will lead to continual improvement of Maroondah's environment and provide a transparent and accountable Council.

2.2 Key Policy Areas

The Strategy focuses on six key areas for action to achieve environmental protection and enhancement. Together these areas contribute to the environmental pillar of sustainability. The areas are:

- Enhancing Council Policy, Programs and Planning;
- Energy;
- Natural Heritage;
- Water;
- Waste and Resources; and
- Delivering Education and Promotion.

2.3 What is Sustainable Development?

Sustainable Development came to prominence with the release of the Brundtland Report by the United Nations World Commission on Environment and Development in 1987. It defined Sustainable Development as:

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

The terms sustainable development, sustainability, and ecologically sustainable development are often used interchangeably to express the same concept. It is a response to the impacts of humans on the natural environment and the resultant effects on society and the economy.

2.3.1 International Framework

This concept of Sustainable Development, or Sustainability, is a goal agreed upon across the majority of the world. Following the 1992 Earth Summit in Rio de Janeiro, governments agreed to a program of action for the 21st Century. This was known as *Agenda 21* and recognised the importance of action at the local level. As a result local governments were encouraged to develop *Local Agenda 21* (LA21) strategies. This Sustainability Strategy and previous environment strategies are a direct result of LA21.

2.3.2 National policy

In Australia, all levels of government adopted the National Strategy for Ecologically Sustainable Development in 1992. The National Strategy for Ecologically Sustainable Development uses the term 'ecologically sustainable development', or ESD, which it defines as:

“Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.”

2.3.3 State Policy

In 2005 the Victorian Government released the 'Our Environment, Our Future: Victoria's Environmental Sustainability Framework'. This identifies three key directions that Victoria must follow to become sustainable. They are:

- *Maintaining and restoring our natural assets*
- *Using our resources more efficiently*
- *Reducing our everyday environmental impacts*

2.4 Maroondah Council

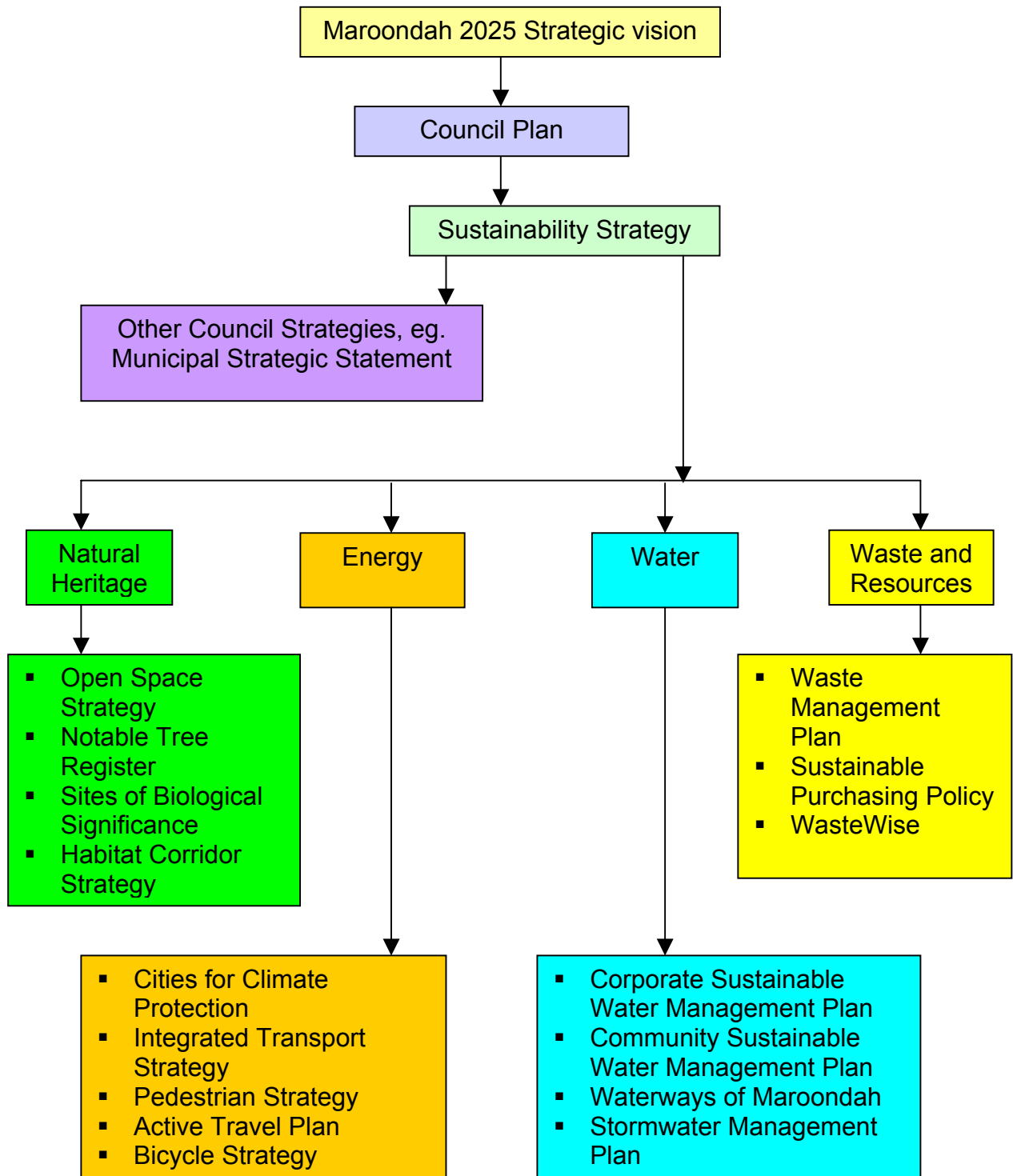
Maroondah Council is well placed in the community to work towards sustainability. It provides a variety of roles and responsibilities that can influence others in creating sustainable behaviour. These include:

- **Leadership** – Council, through its own actions can act as a role model and lead the community and other organisations on a path to sustainability.
- **Facilitation** - Council can act as a catalyst to engender interaction amongst stakeholders and to form strategic alliances aimed at promoting sustainability initiatives and demonstrating positive ways of moving forward.
- **Education** – Council can play a fundamental role in educating the community and other stakeholders in the long-term benefits of sustainability and sound practices.
- **Regulation** – Council has a statutory responsibility to implement and enforce a range of legislative requirements aimed at considering and promoting sustainability.
- **Service delivery** – Council provides a range of services to the community that can be used to showcase sustainable procedures and practices.

Making Maroondah sustainable is a continuous and long-term process. There is no one identifiable point where we can say we have achieved sustainability. Key changes to the way we think, act and make decisions, however, will help ensure that we achieve sustainable outcomes.

2.4.1 Organisational context

The Sustainability Strategy is a key council document. It feeds into the major council strategic documents and provides direction for sustainable action. The strategic planning hierarchy is indicated below.



2.4.2 Maroondah's Achievements

Maroondah Council has demonstrated its commitment to sustainability since its inception in 1994. Below are examples of strategic documents and actions that have, and will continue to enhance sustainability at Maroondah.

2003-06 Environmental Strategy.

Appointment of staff dedicated to environmental issues.

Completion of Milestone 1-5 and progression to CCP+ of the ICLEI Cities for Climate protection Program.

Purchase of 30% Green Power for Streetlights and 10 % for Council buildings.

Greenfleet membership for all Council passenger vehicles.

Maroondah Integrated Transport Strategy 2006.

Maroondah Bicycle Strategy 2004.

Maroondah Pedestrian Strategy 2007.

Sites of Biological Significance Study 1997.

Habitat Corridors Strategy 2005.

Bushland Management Team.

Biodiversity Rate Concession Program.

Protection of Sites of Biological Significance protected through the Planning Scheme.

Maroondah Open Space Strategy.

Waterways of Maroondah Strategy 1999.

Stormwater Management Plan 2001.

Corporate Sustainable Water Management Plan 2005.

Community Sustainable Water Management Plan 2008.

WSUD – Rain Gardens at Ringwood Council Offices.

Retrofitting of council facilities with water efficient fixtures.

Establishment of warm season grasses at sports grounds.

Installation of water tanks at several council facilities.

Use of Class A recycled water from Brushy Creek treatment plant.

Sustainable Purchasing Policy.

Wastewise participation.

Ecobuy member.

You have the Power home energy audits.

Clean Up Australia Day.

WaterWatch participation.

Provision of publications focussing on: native plants and animals, weeds, waterways, waste, energy efficiency, and water conservation.

2.5 Principles of Sustainability

There are several key principles underlying the progression towards a sustainable community. These have been outlined in documents such as *Agenda 21*, *The National Strategy for Ecologically Sustainable Development*, and the *Melbourne Principles*. Application of these principles to Maroondah's operations and their promotion to the community is a core objective of the Sustainability Strategy. Maroondah's procedures and processes will be based on the principles of sustainability.

Long-term economic and social security (Triple Bottom Line)

Long-term economic and social security are prerequisites for beneficial change and are dependent upon environmentally sound, sustainable development. Integration of economic, social and environmental factors (triple bottom line) are to be integrated simultaneously, seeking mutually supportive benefits with minimal trade offs.

Inter and intra - generational equity

Each generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. Ecosystem services and resources produced by the environment should be shared equally by all.

Conservation of biodiversity and ecological integrity

All life has intrinsic value. Conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.

Resource efficiency (limits)

Recognise that natural resources have limits and that stocks of natural capital should not be exhausted at a rate greater than they can be generated or replaced. Efficiency of resource use is a priority in reducing our ecological footprint.

Community (empower people and foster participation)

Empowered and educated communities are required to effect a change towards sustainable societies.

Precautionary principle

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

Enable continual improvement, based on accountability, transparency and good governance.

To manage the continual improvement cycle, it is necessary to use relevant indicators, set targets based on benchmarks and monitor progress against milestones to achieving these targets. This facilitates progress and accountability and ensures effective implementation. Transparency and openness to scrutiny are part of good governance.

2.6 Implementation

This document provides strategic directions for Council to progress sustainability throughout Council. To be successful, the principles of sustainability need to be incorporated in all decisions and activities of Council. Specific actions to achieve the incorporation of sustainability will be determined by individual Directorates and Units throughout Council. Priorities for actions will be assessed against Triple Bottom Line outcomes outlined below. Additionally, decisions should consider the whole life cycle of a project, product or service when assessing the environmental impact.

Environmental

Resource reduction (water, energy, materials)

Pollution minimisation (emissions, litter, chemicals)

Protection and enhancement of landscapes and biodiversity

Long-term benefit

Social

Community benefit

Educational ability

Health and wellbeing benefit

Capacity building

Cultural change

Governance

Partnerships

Community development

Long-term benefit

Economic

Initial cost

Payback periods

Asset enhancement

Maintenance and running costs

External funding potential

Short-term versus long-term cost/benefit

Weightings for sustainability

3 Enhancing Council Policy, Programs and Planning

Part of the Sustainability Strategy is developing an organisational culture that embraces and promotes sustainability through all of Council's operations. A broad spectrum of departments, rather than just one, will be driving sustainability throughout the council, and ensuring its implementation.

The 1992 Earth Summit recognised that environmental challenges often have their roots in local activities. Local Agenda 21 was created to encourage local governments to act on issues of sustainability by developing strategies to work with the local community. ICLEI - Local Governments for Sustainability – Oceania (ICLEI Oceania) supports local government environmental action and Maroondah participates in their Cities for Climate Protection™ and Water Campaign™ programs.

In May of 2007, a Council-run community environment forum was held in Maroondah. The community encouraged Council to take a greater leadership role in environmental matters and leading by example. In order to achieve sustainability, Maroondah needs to include a triple bottom line approach in all of its operations and policies to lead the community forward.

It is vital that Maroondah Council takes a lead role in integrating and encouraging sustainability through the organisation and local community – 'Think Global, Act Local'. Internally, Council must incorporate sustainability into key corporate planning documents as well as in the day to day decision making process. Strong local action and beneficial outcomes will also encourage other levels of government to strengthen environmental objectives and actions at a regional, state and national level.

Maroondah has an opportunity to improve sustainability performance in the community through the Municipal Strategic Statement (MSS) and the local policy section in the Maroondah Planning Scheme. By strengthening the environmental objectives in local policy, it can create a MSS and local policy section that drives sustainability.

Objectives and Strategies

Ensure all decisions made by Council consider environmental, social and economic implications (Triple Bottom Line approach).

- Incorporate environmental and social objectives into the capital works application process.
- Assess council's operating and capital works budget systems in relation to sustainability and develop appropriate decision-making tools.
- Develop appropriate reporting frameworks that incorporate sustainability outcomes

Promote sustainability and Best Practice Environmental Management throughout all of Council's operations and services.

- Provide training and support to staff and councillors regarding sustainability, and in particular, Triple Bottom Line.

- Implement the Sustainable Purchasing Policy and WasteWise Program throughout Council.
- Review Council's performance system to incorporate sustainability objectives and outcomes.
- Encourage and recognise innovative sustainable practices and initiatives.

Establish thorough and robust sustainability provisions within the Maroondah Planning scheme and strategic planning documents.

- Incorporate ecologically sustainable building design objectives and principles into the Municipal Strategic Statement (MSS) and Local Planning Provision Framework (LPPF).
- Review all areas relating to environmental management in the MSS and LPPF.
- Continue to enforce the Maroondah planning scheme and monitor compliance with planning permits.

Targets

Review and update the key provisions of the Municipal Strategic Statement and Planning scheme by 2010.

Conduct annual training programs for staff and Councillors on the concepts of Triple Bottom Line and Sustainability.

Sustainability procedures and practices incorporated into induction program, all employee position descriptions, and capital works application by 2010.

Indicators

Sustainability objectives incorporated in the planning scheme.

Number of staff trained in environmental issues.

4 Energy

There is an increasing global awareness of climate change and the need for action to reduce greenhouse gas emissions. The enhanced greenhouse effect is the result of a build up of carbon dioxide, methane and other greenhouse gases created by human activities in the atmosphere. As concentrations of these gases increase, rising temperatures will cause a change in climates. In Australia, temperatures have risen 1°C on average since the 1950s, with an increase in the frequency of heatwaves and decline in the number of frosts and cold days. Sources of greenhouse gases are from the burning of fossil fuels (electricity, transport), agriculture and deforestation.

In 2007 the Intergovernmental Panel on Climate Change (IPCC) released their fourth assessment report, concluding that:

- Warming of the climate system is unequivocal
- Humans are very likely to be causing most of the warming that has been experienced since 1950
- It is very likely that changes in the global climate system will continue well into the future, and that they will be larger than those seen in the recent past.

Climate change will affect all natural and man-made systems to some extent. In particular, water resources and agricultural systems are likely to be further stressed. In Maroondah, the likely impacts include increased energy demand, more damage to infrastructure (drainage, roads, works) and housing, increased insurance risk, threats to health from disease and heat, and increased stress on stormwater management systems. These impacts are likely to have serious financial implications for Council. Sectors of the community such as the elderly, low income earners and those with medical conditions will be impacted upon due to rising costs and health issues.

The modelling carried out by the CSIRO presents low, medium and high emission scenarios. With sufficient action now we are likely to avoid greater changes of a high emission scenario, however some change is already locked in. It is likely that in southern Victoria temperature will increase and rainfall will decrease.

It is estimated by the IPCC that to ensure impacts are minimised beyond the aforementioned increases, significant reductions in emissions are needed into the future. The IPCC indicates that by 2050, emissions will need to be reduced by 50-85% of current levels to ensure that climate change is kept to a minimum in the future.

Peak Oil is another issue related to energy use. Peak Oil is the point in time where worldwide oil production is at its highest level. After this point, oil production will decline. Oil demand will continue to increase, however production will not be able to meet the demand. This will lead to increased oil costs that will affect many aspects of society, including transport, foods and many consumer products. Estimates for Peak Oil occurring suggest it will happen in the first two decades of the 21st Century, although evidence for this will not be noticed until after the event.

Maroondah Council supports taking action now and is incorporating energy efficiency and low emission technology into its actions and participates in the Cities for Climate Protection program. Key objectives and strategies for energy conservation are to be

based on the energy hierarchy. Council's strategies and actions will focus on firstly conserving energy and using energy efficiently, secondly investing in renewable energy sources and finally offsetting remaining emissions.

Objectives and Strategies

Conserve energy and use energy efficiently.

- Conduct energy audits of major council facilities and implement recommendations.
- Purchase and install energy efficient fixtures, fittings and appliances for all council facilities.
- Ensure vehicle fleet policy incorporates the use of fuel-efficient vehicles.
- Encourage the enhancement and increased use of public transport.
- Encourage energy efficiency throughout the community and Council contractors.
- Ensure any new or upgraded facilities incorporate Ecological Sustainable Design.

Increase the use of renewable energy

- Purchase accredited greenpower for remaining electricity consumption.
- Install renewable energy fixtures on facilities where it is feasible and contributes to multiple objectives such as education and promotion.
- Encourage the use of renewable energy throughout the community.

Offset carbon emissions

- Offset vehicle and natural gas emissions through high quality verifiable programs that achieve multiple environmental benefits (eg. Biodiversity).

Adapt to Climate Change

- Develop a corporate climate change risk management and adaptation strategy and implement recommendations.

Targets

Council Target: Carbon Neutral by 2020 [2006/07 13,222 CO₂e].

Community Target: 20% reduction in community Greenhouse Gas emissions by 2010, based on 1995 levels [1,981,172 tonnes CO₂e] (Cities for Climate Protection target).

Indicators

Electricity consumption (kilowatt hours)

Fuel consumption (litres)

Natural gas consumption (megajoules)

CO₂ emissions (tonnes CO₂e)

5 Natural Heritage

Natural heritage, including biodiversity and open space are vital ingredients in sustainable communities. In Maroondah, treed landscapes are highly valued by the community and offer views that belie the suburban nature of the municipality. The biodiversity of the municipality offers the community experiences with nature that increase the enjoyment of life. Studies have indicated that vegetation and contact with nature have a variety of health and well being benefits.

Biodiversity is the variety of all life forms and is usually referred to at three levels:

- Genetic diversity- the variety of genetic information contained in organisms;
- Species diversity- the variety of species and
- Ecosystem diversity- the variety of habitats and communities.

Conservation of biodiversity aims to enable diversity of flora and fauna to persist and flourish. Within Maroondah the fragmentation of habitat, introduction of pest plants and animals and general loss of habitat has had a major impact on biodiversity. However there are significant areas of native bushland and indigenous tree canopy cover that enables the persistence of many species of flora and fauna.

Conservation of biodiversity recognises the interrelatedness of the biological world and the reliance of humans on biological resources for food, shelter, medicines, pollination and filtration of air and water. Ecosystem Services is the term given to the services provided by biodiversity. It also recognises that all life has intrinsic value, that is, it has a right to exist and is not just for our use. The Commonwealth Government and all state governments are signatories to the National Strategy for the Conservation of Australia's Biological Diversity. Loss of species and destruction of ecosystems has the potential to disrupt ecosystem services and impact significantly on our way of life.

Over 400 indigenous plants, 18 indigenous mammals, 116 indigenous birds and seven indigenous frogs have been recorded in Maroondah. Remnant Ecological Vegetation Classes in Maroondah include Valley Heathy Forest, Swampy Woodland, Grassy Dry Forest, Valley Grassy Forest and Herb-rich Foothill Forest. Public land is often seen as the major area where biodiversity conservation takes place, however in Maroondah, indigenous vegetation on private land is where a significant portion of habitat still remains and requires ongoing maintenance and protection.

As well as aesthetic benefits, open space provides a variety of recreational activities for the community. Open space provides opportunity for passive recreation such as picnics and walks and active recreation such as competitive sports. These are beneficial to people's health as well as improving participation in the community. Maroondah contains no large regional parks, although Dandenong Valley Parklands, Dandenong Ranges National Park and Warrandyte State Park are nearby.

The landscape values of particular areas have been identified through the Neighbourhood Character Study, Notable Tree Study and Habitat Corridor Strategy. The Maroondah Planning Scheme also protects these landscapes through various controls.

Objectives and Strategies

Protect and manage biodiversity assets

- Develop and maintain an electronic inventory of biodiversity assets.
- Assess the habitat quality score of all bushland areas (using government Vegetation Quality Assessment methodology).
- Maintain and review existing planning controls relating to native vegetation, biodiversity conservation and habitat corridors.
- Implement programs for management of threatened species.
- Work in partnership with the community and other organisations to control and eradicate pest plants and animals.
- Develop programs that reduce the impact of domestic animals on biodiversity.

Educate the community of the importance of biodiversity and its conservation

- Provide information on biodiversity conservation to the community.
- Seek funding for and deliver programs that involve the community in biodiversity conservation.
- Provide training to Biodiversity Rate Concession Program participants and community groups.
- Improve coordination of biodiversity and native vegetation management throughout council, and regionally.
- Develop fire management guidelines for burning on public land and fire management on private land.

Maintain and enhance the quality of open space

- Ensure open space is accessible to all sections of the community.
- Ensure open space contributes to environmental objectives, including biodiversity conservation and sustainable product use.
- Seek new opportunities for open space in areas currently under served.

Targets

Council Target: A net gain in the quality and quantity of indigenous vegetation in Maroondah (State government target – Native Vegetation Management Framework)

Council and community Target: No extinctions of indigenous flora or fauna within Maroondah.

Council Target: No net loss of open space

Indicators

Area of native vegetation (Hectare)

Area of vegetation removed through planning permits and number or area replanted (Hectare)

Habitat score of reserves using the state Vegetation Quality Assessment methodology

Number of indigenous flora and fauna species recorded in Maroondah

Area of open space that contains native vegetation (Hectare)

Number of indigenous trees and shrubs planted

6 Water

Conservation of water resources focuses on reducing the use of potable (drinking quality) water. This can be achieved through efficient use of potable water, use of rainwater and use of recycled wastewater. Water quality relates specifically to the quality of water in our local streams and wetlands. Much of this water is degraded due to human activities and impacts upon biodiversity and recreational values.

Water is a vital resource and has been undervalued in the past. The growing population of Melbourne and potential impacts of climate change is likely to increase the stress on potable water supply. Although the state government has committed to building a desalination plant, it is important that water conservation activities continues to reduce future demand as much as possible.

Waterway health is an important issue as it impacts upon ecosystem services, biodiversity and recreational use of streams and coastal areas. Maroondah is highly urbanised and the main waterways in the municipality, the Dandenong Creek and Mullum Mullum Creek have been significantly altered in many sections. Remnant vegetation exists along several waterways and has the potential to form significant habitat corridors. Major threat to the municipality's waterways include major infrastructure such as roads, chemical spills, litter and pollution. These impact on the aesthetics of recreation areas and have damaging effects on aquatic flora and fauna. The impacts continue to Port Phillip Bay.

Targets for Maroondah per-capita water use and commitment to improving local waterways are based on the statewide targets in the Central Region Sustainable Water Strategy.

Objectives and Strategies

Avoid water use where possible

- Install technologies that do not require water use.
- Design public open space to avoid the need for watering.

Reduce water use

- Minimise water use in all Council facilities.
- Ensure new or upgraded facilities incorporate best practice water conservation.
- Ensure replacement or installation of irrigation systems incorporate efficient design principles.
- Support programs that encourage the community to reduce water consumption.

Reduce potable water use

- Continue to investigate the use of Class A recycled water at Council facilities.
- Install rainwater tanks for substitution of potable water where appropriate and sustainable.
- Investigate options for the use of stormwater at appropriate facilities.

Ensure the long-term protection and rehabilitation of the City's waterways and wetlands.

- Continue to revegetate waterways and wetlands with indigenous species.
- Ensure maintenance regimes of Water Sensitive Urban Design (WSUD) and Gross Pollutant Traps (GPT) are appropriate.

Improve water quality and water flow in the City's waterways and wetlands.

- Develop and implement a WSUD policy for council operations, leading to the incorporation of WSUD into all capital works projects.
- Encourage all new developments to incorporate WSUD techniques.

Targets

Council Target: To reduce corporate water consumption by 20% by 2015, based on 2000/01 levels [Baseline 195,756 kilolitres, 2006/07 176,080 kilolitres (water restrictions in place)] (Corporate Sustainable Water Management Plan 2005).

Council Target: To undertake water quality related actions equivalent to 60 points from the ICLEI Water CampaignTM points based measurement system by 2015 (Corporate Sustainable Water Management Plan 2005).

Community Target: To reduce per capita residential water use by 30% by 2020, based on 1990's average [423 litres/person/day, 2006/07 176 litres/person/day] (Community Sustainable Water Management Plan 2007).

Community Target: To reduce non-residential potable water use by 10% by 2020, based on 2001 use [Baseline 1,433,138 kilolitres, 2006/07 1,508,900 kilolitres] (Community Sustainable Water Management Plan 2005).

Council and community Target: Maintain or improve the Index of River Condition of Maroondah's waterways to 'Moderate' by 2015.

Indicators

Corporate water use (kilolitres)

Community water use (kilolitres)

Index of River Condition

7 Waste and Resources

Council and the community use a variety of resources on a daily basis. These resources such as wood, metals, oils and fibres come from renewable and non-renewable sources. The production of these resources often leads to environmental degradation, and their lifespan is often short, requiring eventual disposal.

Levels of consumption influence the amount of waste and pollution produced by the community. By throwing things away we lose the natural resources, energy and time invested in the product. This is extremely inefficient and unsustainable. The generation of waste damages the environment and impacts on the amenity and safety of the community. Air pollution in particular can have severe impacts on the health and well being of the community.

Waste collection is a major service of Maroondah Council, with each household in Maroondah producing approximately 424 Kilograms of waste per year (2006/07). To reduce waste disposal to landfill, Council also provides a bin-based recycling and garden organics collection service. Maroondah recycles 56% of its waste. The targets below are from the State Zero Waste Strategy.

The waste hierarchy has been proposed in order to improve resource efficiency. Actions to achieve the objectives and targets should be based on the hierarchy. The waste hierarchy is:

1. Avoid
2. Reduce
3. Re-use
4. Recycle
5. Recovery of energy
6. Treatment
7. Containment
8. Disposal

Objectives and Strategies

Improve air quality

- Encourage the use of active transport such as walking and cycling for short trips.
- Advocate for, and assist the Environment Protection Authority (EPA) to assist with the improvement in industry and vehicle air emissions.
- Advocate for improved public transport via the Eastern Transport Coalition (ETC), Council advocacy and other networks.

Identify and minimise waste at its source

- Identify litter hot spots to target with waste reduction and removal techniques.
- Educate the community on sustainable purchasing.

Reduce waste to land fill

- Support container deposit legislation.
- Recycle building waste from council facilities and encourage the community to do likewise.
- Investigate the opportunities to increase materials recovered and the collection of new materials from households.
- Reduce office paper use and recycle products purchased by Council

Use natural resources efficiently

- Incorporate life cycle assessment into the decision making process at Council.
- Prioritise purchasing of goods that contain recycled content or are recyclable.
- Ensure that products and technologies used by Council and contractors are sustainable.
- Provide regular updates of sustainable products to council officers.

Targets

Council and community Target: Maintain air quality emissions to below State Environment Protection Policy standards [emissions in Port Phillip Region 2002: CO 670 kilotonnes, VOCs 140 kilotonnes, NO_x 91 kilotonnes, SO₂ 54 kilotonnes, Particles <10µm 23 kilotonnes].

Council and community Target: Zero waste to landfill by 2020 (State target is a 65 % recovery rate (by weight) of Municipal Solid Waste for reuse and recycling by 2014).

Council Target: Reduce office paper use per employee by 25 % by 2015 based on 2007/08 levels [Baseline 11.16 reams per employee per year].

Indicators

CO, CO₂, NH₃, NO_x, Particles <10µm, SO₂, VOCs.

Recovery rate/Diversion rate

Annual household waste yield

8 Delivering Education, Promotion and Partnerships

Education is a vital tool in creating the behaviour change needed to lead to environmental enhancement and sustainability. Council has maintained its commitment to education with regular activities in schools such as WaterWatch and waste and recycling programs. Throughout the general community it disseminates information and also provides educational seminars on topics such as energy efficiency, water conservation and green gardening. It has also targeted businesses and industry to improve environmental outcomes. The diversity of educational opportunities must also include all sectors of the community including migrants, youth and elderly.

Council has supported many community groups and associations in the community. The Environment Forum provides groups and individuals the opportunity to provide feedback to council. The 2007 review directly influenced this strategy and the focus of actions over the coming years.

Council aims to provide accessible opportunities, in particular, programs that bridge the gap between awareness and action. Environmental awareness is constantly growing as the media and environmental groups draw attention to important issues. In this environment it is important to form partnerships with other agencies and groups to exchange coordinated and timely information.

- Council will work in partnership with:
 - Individual residents
 - Community groups
 - Retail traders
 - Commercial operators
 - Commonwealth departments and agencies
 - State departments and agencies
 - Other organisations
 - Schools

Objectives

Provide on-going education and awareness programs.

- Regularly update and develop environmental information brochures and on the website.
- Develop and deliver specific programs tailored to residents, schools and businesses aimed at improving environmental sustainability.
- Report annually to the community on the Council's implementation of sustainability actions.

Foster and facilitate the local stewardship of environmental issues.

- Seek feedback from the community on environmental issues.
- Provide opportunities for the community to participate in environmental activities.
- Support environmental community groups.
- Promote environmental sustainability at Council events.

Partner with other groups and agencies on environmental issues

- Participate in regional alliances to share information and promote environmental objectives.
- Enhance relationships with government agencies through strategic projects.

Target

Biannual environmental forums in years 1 and 3 of the Council electoral cycle

Participation in environmental workshops, programmes and events delivered by Council or the Community.

Indicators

Number of Workshops

Workshop participation

Number of School activities

Number of Environmental events attended/promoted

9 Implementation, Monitoring and Review

Implementation of local government policy is what makes the policy and planning for a sustainable future a reality. But just as important is the monitoring and review of council implementations, which demonstrates if a strategy is working or not, and how we can improve our vision for the future.

It is also essential that the Maroondah community continue to be able to monitor the implementation of the Sustainability Strategy.

The following actions are to be undertaken in Maroondah in conjunction with the implementation of the Strategy:

- Provide adequate staff and financial resources to ensure the aims of the Strategy are delivered.
- Apply for external funding where available to assist with action and implementation.
- All departments in council will be responsible for putting environmental actions into their plans and strategies. Different departments will act on different facets of sustainability, and by working together will create the 'sustainable' council as a whole.

Performance will be monitored against the targets listed for each area within timeframes specified for each. Indicators are provided and these indicators will be used to report on the outcome of actions. Where baseline data is currently not available, actions to gather data will be developed. Council will strive to achieve its own targets, and encourage the community to do likewise.

Reviews will be undertaken annually to monitor progress on individual actions and the overall objectives.

The Sustainability Strategy as a whole will be reviewed every five years.

10 Commonwealth and State Legislation and Strategies

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

Planning and Environment Act 1987 (Victoria)

Flora and Fauna Guarantee Act 1988 (Victoria)

Catchment and Land Protection Act 1994 (Victoria)

National Strategy for Ecologically Sustainable Development

National Strategy for the Conservation of Australia's Biological Diversity

Native Vegetation Management Framework

Melbourne 2030: Planning for a Sustainable Future

Securing Our Water Future Together

Port Phillip and Western Port Regional Catchment Strategy 2004 – 2009

Our Environment Our Future: Victoria's Environmental Sustainability Framework

Central Region Sustainable Water Strategy

Victorian Greenhouse Strategy

Victorian River Health Strategy

Port Phillip and Westernport Regional River Health Strategy

Towards Zero Waste Strategy

11 Websites

Commonwealth Department of the Environment, Water, Heritage and the Arts – www.environment.gov.au

Victorian Department of Sustainability and Environment - www.dse.vic.gov.au

Victorian Department of Primary Industry – www.dpi.vic.gov.au

Victorian Department of Planning and Community Development – www.dpcd.vic.gov.au

Sustainability Victoria - www.sustainability.vic.gov.au

Environment Protection Authority - www.epa.vic.gov.au

Victorian Climate Change Program - www.climatechange.vic.gov.au

Melbourne Water - www.melbournewater.com.au

Yarra Valley Water - www.yvw.com.au

Climate Change In Australia: Technical report - www.climatechangeinaustralia.gov.au

ResourceSmart – www.resourcesmart.vic.gov.au

Victorian Association for Environmental Education - www.vaee.vic.edu.au

EcoSpecifier – www.ecospecifier.org

Energy Rating – www.energyrating.gov.au

Water Rating – www.waterrating.gov.au

Green Vehicle Guide – www.greenvehicleguide.gov.au

Your Home Environmental Design – www.yourhome.gov.au

Good Environmental Choice – Australia – www.aela.org.au