

# LODDON SHIRE COUNCIL

## ENVIRONMENTAL SUSTAINABILITY STRATEGY 2013 - 2018



LODDON  
SHIRE

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# FOREWORD

The Loddon Shire Environmental Sustainability Strategy (ESS) encompasses a broad range of activities and services performed by Council and identifies opportunities for either improvement in the way Council performs these roles or opportunities to advocate on behalf of our community with external agencies, with the aim of enhancing the management and care of our local environment.

The ESS builds upon key strategic platforms and core business areas identified within the recently adopted Council plan and identifies specific programs, projects or advocacy roles which Council may undertake in order to achieve a tangible difference to the sustainability of the Shire and its local communities.

Ultimately the ESS provides a mechanism by which Loddon Shire Council can identify and monitor progress towards achieving a more environmentally sustainable future. The ESS is a document that provides a clear set of objectives to work towards; it nurtures new and existing activities that have positive environmentally sustainable outcomes.

This ESS is the product of considerable consultation and collaboration between staff, the community and expert consultants engaged to collate and prepare the 5 year plan. In reading the ESS it becomes clear how essential working in partnership, with all levels of government, local and regional authorities, industry, business and the community is to achieving these outcomes.

I encourage all residents within Loddon Shire to gain a greater understanding of how our actions and decisions impact upon the local environment, as well the steps which we all can take to minimise the impact of these whilst working towards creating a more prosperous and sustainable future for all within the Shire.

Lastly, I thank all those who have contributed towards the development of this plan and look forward to seeing the implementation and outcomes of the various projects and actions, as we work together to make Loddon Shire a stronger and more connected community.



Councillor Geoff Curnow  
Mayor of the Loddon Shire Council

## 1 BUDGET IMPLICATIONS

The action plan as seen attached within Appendix 1 identifies those projects, programs or initiatives identified for delivery over the life of this strategy. A number of the items contained within the action plan nominate a financial allocation to support the relevant activity which has potential implications for Councils budget.

The majority of items associated with a financial resource requirement have however been identified on the assumption of securing external funding either through competitive grants or non-competitive state government allocations. A summary of each project nominally requiring a financial contribution/allocation is provided below along with a short statement regarding the potential funding strategy.

E1 – Undertake Energy Audit on all Council Buildings: A nominal figure of \$15,000 has been identified for inclusion within Council’s 2015-2016 Budget. At this point in time no external grants have been identified to conduct this project. It is envisaged that the initial budget allocation will allow the audit of a number of facilities with subsequent budget allocations being sought based upon the outcomes resulting from the pilot program.

E3 – Energy monitoring Software for Municipal Offices: A \$10,000 budget allocation is being sought within the 2014/15 financial year to procure and implement a system of monitoring and displaying energy consumption within Councils municipal offices in Wedderburn. This project will compliment proposed solar panel installations on municipal buildings. At this point in time no eligible grants have been identified to fund this project.

E4 – Installation of Solar Panels on Municipal buildings: Funding for the rollout of solar power installations on each of Councils municipal buildings or reserves is expected to be funded utilising periodic grants which become available such as round 5 of the sustainability accord. Council has already secured \$45,000 towards this project and will continue to seek further external funding as and when grant opportunities arise. Some financial contribution from Council may be required towards this project in the future and as such may be incorporated within development of future annual budgets.

E7 – Upgrade Street Lights to Energy Efficient Technology: \$80,000 has been allocated within Councils 2013/14 Annual budget and represents the required local contribution towards the “Lighting up the Regions” project being co-ordinated by City of Greater Bendigo. This project is a collaboration of 16 Councils and will see the replacement of over \$21,000 existing streetlights across participating municipalities, with energy efficient technology such as LED’s. Loddon’s \$80,000 contribution is being combined with other municipal funds as well as a federal government grant of approximately \$9 Million to deliver this project (Loddon component = \$320K approx.).

W2 – Upgrade Parks & Gardens Irrigation Infrastructure: Development of a detailed parks and gardens infrastructure program is currently in progress. Upon completion of this program it is expected that individual projects will be identified along with associated cost estimates for completion. This program shall then translate into annual funding bids presented during development of Councils future budgets.

W3 – Continue Drought proofing of Recreation Facilities: A register of potential drought proofing and water efficiency works is being prepared across all of Councils public recreation reserves and open space areas. This register will then be utilised as the basis for an application to federal or state government funding opportunities such as the strengthening basin communities program. The level of Council funding required to secure any external grants will be dependent on the specific grant conditions.

W4 – Implement Flood protection studies and associated works: A funding application under the federal governments Natural Disaster Resilience Program has been submitted for the preparation of flood mitigation studies in Pyramid Hill, Serpentine and Boort. In the event that funding for this project cannot be secured externally, a subsequent report to Council seeking allocation of funds to complete the Township protection studies may be provided.

B6 – Part Time Environmental Sustainability Resource (Shared): Under the Victorian Adaption and Sustainability Partnership, Loddon Shire has lodged a funding application in collaboration with neighbouring municipalities (\$40,000 ea.) to establish a cluster resource sharing arrangement through which implementation of actions

identified within the regional sustainability plan may be facilitated. If successful a cash contribution of \$5,000 will be required from Loddon Shire along with in-kind resource contributions from existing staff.

L1 – Roadside Weed & Pest Animal Management Plan: To date Council has received from the Department of Primary Industries grants totalling \$100,000 towards the development and implementation of a roadside weed and pest animal management plan. A further grant of \$50,000 is expected in 2014/15 however no commitment for further funding beyond this date has been made by the state government.

T2 – Continue to fund the Loddon Shire Car Pool Policy: Council currently maintains a car pool policy which encourages the increased utilisation of its fleet though financial incentives for staff to participate within the car pool program. An operational budget of \$5,000 has been included within the 2013-14 Budget and it is envisaged that this financial commitment shall continue. No external funding has been identified to supplement this program at this point in time.

W1 – Continue Participation in the Regional Waste Management Group: Council currently provides a financial contribution to the operation, co-ordination and programs of the Central Murray Regional Waste Management Group. It is envisaged that this contribution will continue under the new regional waste management group structure and require funding of approximately \$5,000 from Councils operation budget annually.

W3 – Lobby for the Newbridge Sewer Scheme: Funding for the establishment of a reticulated sewer network throughout the Newbridge Township is considered to sit with the responsible urban water authority, i.e. Coliban Water. A portion of funding for this project has been secured through the state governments Country Towns Water Supply & Sewerage Program. At this point in time no contribution is being sought from Council however subject to the total projects costs, funding capacity of Coliban Water and limitation of state government contributions, Council may elect in the future to provide a contribution towards this project so as to facilitate its implementation.

W5 – Investigate Full Time Sustainability Resource: Consideration will be given to the preparation of a business case to support the engagement of an internal staff resource with Loddon Shire to implement various actions identified within the Environmental Sustainability plan as well as undertake sustainability or environmental operations across the various areas of Council business. It is envisaged that funding for such a position would require either an increase in the operational salaries budget of Council or alternately securing of external funding. At this point in time no external grants have been identified for funding this position.

## 2 INTRODUCTION

Local Councils are in a prime position to lead climate change adaptation and mitigation, and to address broad sustainability issues at a local level. However they are frequently impeded from taking a strategic approach and generally ill equipped operationally without a major rethink of how they provide and prioritise services. Environmental sustainability issues impact all areas of local government but traditionally Council operations are structured in separate departments, all subject to different local government legislation. So even though Councils may clearly understand the issues and how they relate, there are challenges to acting on them in a holistic way.

Further, they are under increasing pressure to do more with less. Many like the Loddon Shire tend to have diminishing populations, industry and rate bases; soaring infrastructure, energy and waste costs; along with increased responsibilities devolved from State government.

Variances in land area, population trends, and income streams significantly influence the type and priority of service that councils provide. **Invalid source specified.**

They are subject to increased compliance requirements but frequently with no corresponding increase in funds to address the issues; exacerbated by complex legislation that is out of step with the rapid changes in the economic, environment and social landscape. Understandably they can be cautious about taking action and averse to taking risks. Government funding to develop environmental sustainability strategies and plans

moves part way to address these dilemmas.

This Environmental Sustainability Strategy (ESS) project was funded with the support of Victorian Government under the Victorian Adaptation and Sustainability Partnership. The initiative was designed to strengthen collaborative efforts by the State Government and local governments to create better environmental sustainability outcomes at the local level. The ESS aims to bring together the work done by Council to date in the area of environmental sustainability and provide a consistent, cohesive and prioritised approach to decision making and activity implementation. It is envisaged that the ESS will guide the development of environmental sustainable practices for the Council and more broadly across the Loddon Shire.

### 2.1 Environmental sustainability definition

In the context of this strategy we have defined environmental sustainability as maintaining and enhancing quality of life, for both current and future generations, through a balance of economic viability, environmental conservation and restoration, and community wellbeing.

For Council, this is about working collaboratively and creatively to better integrate short and long-term economic, social and environmental considerations into all decision-making within Council operations and services. It involves demonstrating leadership and accountability to the community in prioritising actions to reduce the impact of climate change, decline in biodiversity and the erosion of natural resources.

Traditionally, agriculture has been the mainstay of the Shire's economy. It has been noted that healthy environments often correlate with sustainable agricultural activity. A sustainable economy and healthy environment similarly impact on a population's well being and growth. However agricultural practices are changing and adapting to uncertain conditions, along with many other changes such as increased global population, business and tourism trends, technology and in how we communicate.

In recognition of the above, this Strategy considers social, economic and environmental outcomes and the relationship between them. This will maximise the relevance and significance of the Strategy to the community and will optimise opportunities for service delivery support. Environmental Sustainability within Loddon Shire includes:

- Both the natural and built environment
- Environmental, economic and social outcomes

## 2.2 Drivers and barriers to change

The principal drivers of Australia's environment – and its future condition – are climate variability and change, population growth and economic growth. (Dept Sustainability, Environment, Water, Population and Communities, 2011)

We are impacted by the combined effect of global, national, state and local changes in these principal drivers; along with other factors such as rapid changes in technology and resource availability. In addition to the impact on the natural environment, they also affect the very fabric of our everyday life as we have known it in regional Victoria.

## 2.3 Climate variability (extreme weather)

As the driest inhabitable continent, Australia is particularly vulnerable to the effects of climate change. Australia's exposure to climate change depends on global greenhouse gas emissions.

The summer of 2012/13 was the hottest on record and included the hottest sea-surface temperatures on record for the Australian region. The length, extent and severity of the 2012/2013 Australian heatwave are unprecedented in the measurement record. Although Australia has always had heatwaves, hot days and bushfires, climate change is increasing the risk of more frequent and longer heatwaves and more extreme hot days, as well as exacerbating drought, flood and bushfire conditions.

**Good community understanding of climate change risks is critical to ensure we take appropriate action to reduce greenhouse gas emissions and to put measures in place to prepare for, and respond to, extreme weather.**

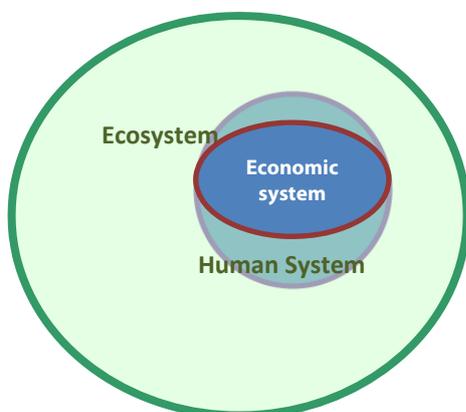
## 2.4 Population

Whilst the global population is growing and Australia's population of 23 million people is projected to grow to 36 million by 2050, regional population trends are variable. Similar to many other rural municipalities, the Loddon Shire population is aging and dwindling in numbers.

As global population increases along with the associated escalation in resource consumption and cost, stress is placed on the natural environment as we compete for resources, find safe ways to store waste and ensure the quality of our soil, water and air.

Local population trends will inform how we plan for and manage our infrastructure – housing, public transport, water supplies, energy and communications; our business – agriculture, horticulture, industry, tourism; our wellbeing – health care, welfare, sports and recreation, arts and culture; and the natural environment – biodiversity, natural resources management, and waste disposal.

## 2.5 Economy



Off the back of the 2008 global financial crisis, the growth of the Asian workforce and other influences, the face of work in Australia is experiencing significant change. There are few stable reference points in the Australian economy.

The relationship between the natural environment, the social environment and the economic environment is integrally linked. Even modest growth means a greater demand on energy, water and material resources. Increased demand for goods and services in turn increases our ecological footprint, already one of the highest in the world. 'Victorians are turning natural resources into waste at a faster rate than nature can turn waste back into resources.

This pressure drives habitat destruction or degradation, threatening natural systems and human well-being. Our energy consumption is the biggest contributor to Victoria's footprint, largely due to our reliance on emissions-intensive electricity generation and use.' (Mt Alexander Shire

Council, 2011) Our challenge is to maintain a viable economy, to mitigate the degree and potential impact of climate change, and to decouple national growth from increased pressure on our environment. (Dept Sustainability, Environment, Water, Population and Communities, 2011) (Climate Commission Secretariat, Australian Government, 2013)

The issues are complex and in a constant state of flux. Inevitably this means that local government is under pressure to deliver more services with fewer resources. It is important to recognise the dynamic relationship between all the factors contributing to our changing world. It is highly probable that we need different thinking and different actions to deliver high quality services to the community, reduce our impact on the environment and reduce our costs of doing so.

### 3 MUNICIPAL PROFILE

The Loddon Shire is a predominately rural region of North-Central Victoria that covers an area of approximately 6700 square kilometres and is 200 kilometres north-west of Melbourne. Despite being geographically one of the largest shires in Victoria, the population in 2011 was 7464 permanent residents, making the population density 0.01 persons per hectare (Profile.id, 2013), one of the lowest in the State. The population has been in a state of decline over the past decade, falling from 8,333 in 2001 to 7464 in 2011, putting pressure on council services and core activities. The major towns are Boort, Bridgewater on Loddon, Inglewood, Pyramid Hill, Serpentine, Tarnagulla and Wedderburn.

The Loddon Shire is surrounded by the shires of Greater Bendigo, Campaspe, Gannawarra, Buloke, Northern Grampians, Central Goldfields and Mount Alexander, all of which have similar climates and large tracts of agricultural land.

The Loddon Shire region receives most of its rainfall in winter and spring and has long hot dry summer periods. It has been subject to both severe droughts and floods in the past decade.

The climate, soil and landscape are well suited to a variety of agricultural industries, which is the main employer in the region with approximately 38% of residents employed in this sector. The majority of the primary industries in the Loddon Shire are dry land broad acre agricultural enterprises, such as prime lambs, fine wool, oil seeds, pasture and cereal cropping. Irrigated primary production exists along the river catchments and groundwater resources such as potatoes, olives, tomatoes, legumes, pasture hay and other agricultural pursuits such as viticulture and salt extraction. A viable dairy industry exists in the irrigated areas in the south and east of the Shire, although the continuing drought and a changing climate have decreased the number of dairy farmers significantly.

Despite early settlers clearing most of the landscape for agricultural pursuits in the mid to late 1800s, there are significant tracts of public land and natural assets in the west and south of the Shire. The majority of these natural assets are managed by the Department of Environment and Primary Industries (DEPI) and Parks Victoria. They include Terrick Terrick National Park, Leaghur State Park and Kooyoorra State Park, and other Flora, Fauna, Scenic, Bushland and Historic Reserves. These reserves are not only vital for tourism and eco-tourism opportunities, but also contain important biodiversity assets and are vital to the ecological health of the landscape.

### 4 ENVIRONMENTAL SUSTAINABILITY ACHIEVEMENTS TO DATE

Loddon Shire has made progress with implementing some environmental sustainability initiatives, such as drought-proofing recreational sporting grounds; implementing the Living Green Project to help promote behaviour that reduces resource use in the home and involvement in Central Victorian Solar Cities Project to promote the use of renewable energy sources. Achievements include:

- employment of a Climate Change Officer in 2009 and development of the Climate Change Adaption Plan 2009
- the commissioning of a Climate Proofing Sport and Recreation Facilities Strategy report to identify ways to 'drought-proof' sport and recreation facilities in the Loddon Shire in 2011. The implementation of this strategy helped communities to retain their sport and recreation assets through leveraged use of the \$0.75M Strengthening Basin Communities grant which included:

- Installing new irrigation systems and planting drought-resistant grasses
- Making recommendations on watering regimes for individual grounds
- Installing dedicated storage tanks for sports grounds and automatic irrigation systems
- Use of artificial turf and hard surfaces for netball courts
- support for upgrade of hot water services for football clubs to efficient heat pump systems. The residents of the Loddon Shire rated the Council's performance highest in recreational facilities, scoring 83 in the Community Satisfaction Survey 2012.
- support for the installation of grid-connected solar PV systems on 7 community buildings in the South of the Shire to reduce running costs and emissions.
- upgrade of the Bridgewater Caravan Park following the 2011 floods including the raising of building assets above previous flood levels.
- Council participation in the Kerbside Pride Initiative with the Central Murray Regional Waste Management Group, to the Silver Medal level
- participation and promotion of the "Plastic Bag Free towns" project throughout the Shire.

## 5 STRATEGIC SUMMARY

### 5.1 Vision and purpose of strategy

As defined within the recently adopted 2013-2017 Council plan, provision of services which enhance the sustainability and liveability of our local communities is considered to be the core mission of Council. Through this it is believed Council will be able to achieve its long term vision of creating a municipality of strong communities proud of their individual identities.

To this end, the integration, enhancement or expansion of sustainable practices throughout Councils operations is paramount, if we are to achieve our objectives of growing our population, improving liveability of townships, diversifying and expanding our economy and building a network of strong communities.

The concept of sustainability as reflected throughout the 2013-2017 Council Plan encompasses a wide range of focus areas including environmental (climate change), finance & economy, infrastructure, services and population.

In alignment with the Council Plan, the purpose of this Strategy is to guide Council through its decision making processes in planning for the future; in identifying program and project implementation priorities for the delivery of environmental sustainability outcomes.

The Loddon Shire Council Vision for environmental sustainability is to show leadership in working collaboratively and creatively to better integrate short and long-term economic, social and environmental considerations into all decision-making within Council operations and services.

### 5.2 Objectives of strategy

The objectives of the strategy are to:

- review existing plans to assess identified issues related to environmental sustainability
- review and assess current and emerging issues relevant to the municipality
- identify a clear direction for the Loddon Shire Council to plan and implement relevant environmental sustainability initiatives
- develop a list of relevant and achievable recommendations

### 5.3 Scope of strategy

After the review of existing plans and broad community consultation to assess identified recommendations relevant to environmental sustainability for Loddon Shire, the ESS is developed to be:

- Consistent with existing council plans that have been completed or are in progress

- considerate of the objectives of regional, state and federal governments in relation to environmental sustainability
- considerate of current community needs, issues, expectations and priorities, including special needs
- heedful of specific issues confronting the shire and the community needs which council will be required to plan for in the future i.e. infrastructure and program development
- commensurate with the Shire's budget and resource capacity
- identify both internal and external actions
- interpret and identify relevant themes

Whilst the need to act is urgent and environmental sustainability can be all encompassing, Loddon Shire Council must work within constraints of budget, time and priority.

Council provides a range of services to communities and local business including building and maintaining road networks, maintaining streetscapes and park areas, providing waste and recyclable collection, home and community care services, office administration and maintaining community facilities. The major resources expended in these activities are fuel, power, water and rock based products. These are big ticket items which are a significant drain on the financial, ecological and human resources of the Shire.

#### **5.4 Four criteria for strategic direction**

This strategy has identified four key criteria to highlight council's level of involvement for realising environmental commitments.

##### **5.4.1 Lead by example**

Council can maximise its impact by taking an integrated approach internally with its own operations, policy, systems and culture. Through the actions and priorities identified in this ESS, the Shire can lead by example in energy efficiency, water use, sustainable transport, procurement and waste processes. This strategy process identified many staff members who are interested and committed to environmental sustainability that Council could cultivate as sustainability champions. Some of the priorities and actions outlined in the Strategy have already commenced or have been undertaken in the past and require ongoing support or renewal to achieve the goals of the strategy.

##### **5.4.2 Use the planning scheme and council powers to bring about sustainable environmental outcomes**

Council should make use of regulatory instruments and the planning scheme where necessary to promote and encourage environmental sustainability. The use of the Municipal Strategic Statement will provide a clear mandate and direction to act on important integrated environmental initiatives for the benefit of the community.

##### **5.4.3 Support and enable the community to lead and take action**

There is great value in supporting grass roots initiatives to live more sustainably. This can be done through education, Transition Towns program or other community resilience movements. Supporting and funding community groups with expertise, resources, venues and the like is good use of council resources. It builds a resilient culture and ownership of sustainability issues and solutions.

##### **5.4.4 Advocate and partner for environmental solutions**

Engagement and partnership with external stakeholders will be vital to the successful implementation of the strategy. The annual review process will ensure alignment and engagement with relevant government authorities and departments relevant to each priority in the strategy. Sharing infrastructure, human resources and intellectual property with adjoining shires should be explored to lighten the financial burden on the Loddon Shire.

#### **5.5 Short medium and long term actions**

To ensure the successful implementation of the short, medium and long term actions, the strategy will be reviewed annually by the implementation team and reported to Council. This will allow Council to assess the number of actions being implemented, the outcomes achieved and assessment of the financial and human resources required to achieve the targets of the strategy. Each of the actions have been allocated a key area or

staff member at the Loddon Shire, which will provide both a short and long term indication of the progress towards environmental sustainability. The actions allocated to specific staff and divisions within LSC will need to be incorporated into staff performance management plans.

## **5.6 Implementation process**

The ESS contains priorities and action plans which identify targets, partners and the responsible LSC division for implementation of the action. The action plan also identifies the priority timeframe for the implementation of each individual action over the five year time frame for the strategy. Short term actions will be completed in the first 12 months, medium term in years 2 and 3, and long term years 4 and 5. The annual review will track the progress of the implementation.

## **5.7 Common community aspirations, concerns and themes from survey responses**

The paragraphs that follow outline aspirations, concerns and themes as expressed by the community during interviews and surveys. These comments do not necessarily reflect the views of Council or Consultants.

Community survey respondents saw the Shire as a resource in terms of expertise, funding and education in many areas including large and small renewable energy projects, pilot bio-energy plants and water management. Many simply wished to be supported so they could take responsibility in areas such as community transport for the elderly and local environmental management. There were numerous calls to employ an officer dedicated to seeking grants and funds and Landcare support for a variety of projects, including the employment of local youth. Environmental themes were seen as an economic opportunity to differentiate the Shire in terms of tourism, employment, agriculture and renewable energy.

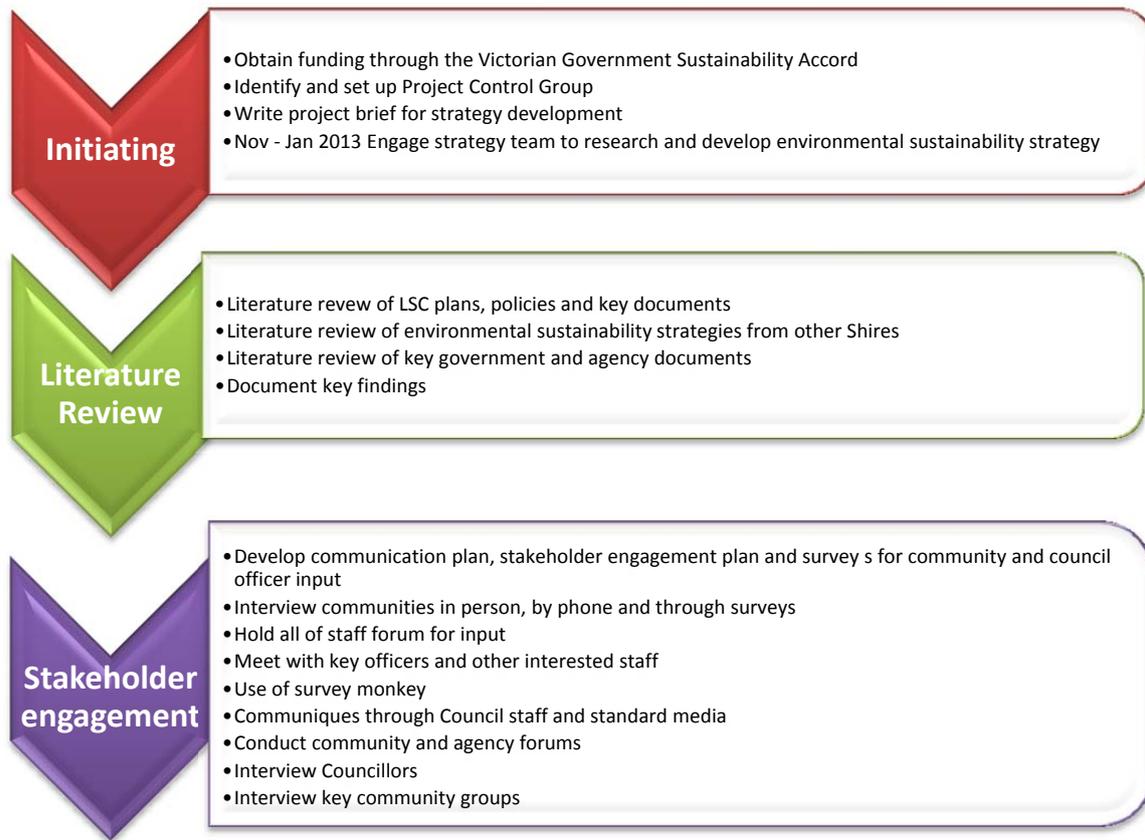
Survey respondents were very supportive of the uptake of renewable energy, particularly photovoltaic technology and wanted Council to not only continue supporting it in the community, but also lead by example on Council buildings. Interest was expressed in seeing education on improved energy efficiency in both new and existing buildings and to see the Council leading by example. The Council was seen (rightly or wrongly) as the agency to research and encourage areas such as bio-energy, sustainable farming techniques, alternative sewerage technologies and carbon trading opportunities.

The quality of town water supplied by agencies is an ongoing concern in several towns, and the efficient use and increased storage options for rainwater were supported. The management of storm and flood waters was of interest, as was a desire for earlier warning of flood waters moving across the Shire. The supply and management of sewerage systems in towns is an ongoing issue and also chemical runoff from farms during flood events. Concern was also expressed on the future of the irrigation network and the responsibility for the maintenance of drainage channels servicing irrigation land.

Frustration was expressed regarding absentee landowners, the spread of weeds and pest animals and the lack of compliance regarding local environmental laws. There was strong support for the increased role of a Land Care coordinator or an environmental worker across a range of groups. The difficulty of obtaining building permits was linked to problems in attracting permanent residents. The desire for increased visiting medical services, aged care accommodation and local nursing homes was an important area on interest. The use of volunteer drivers and an organised community-based transport system was a common suggestion to deal with lack of mobility for the elderly and infirm.

The desire for better public transport systems and connectivity for residents was a common theme, as was an interest in seeing more freight carried by rail rather than on roads. Respondents also expressed the desire to see more tourism and the maintenance (especially quality upkeep of toilets) of camping grounds. There was concern about the quality of the mobile phone coverage and missing out on the benefits the fibre optic network roll out.

## 6 PROJECT METHODOLOGY IN BRIEF



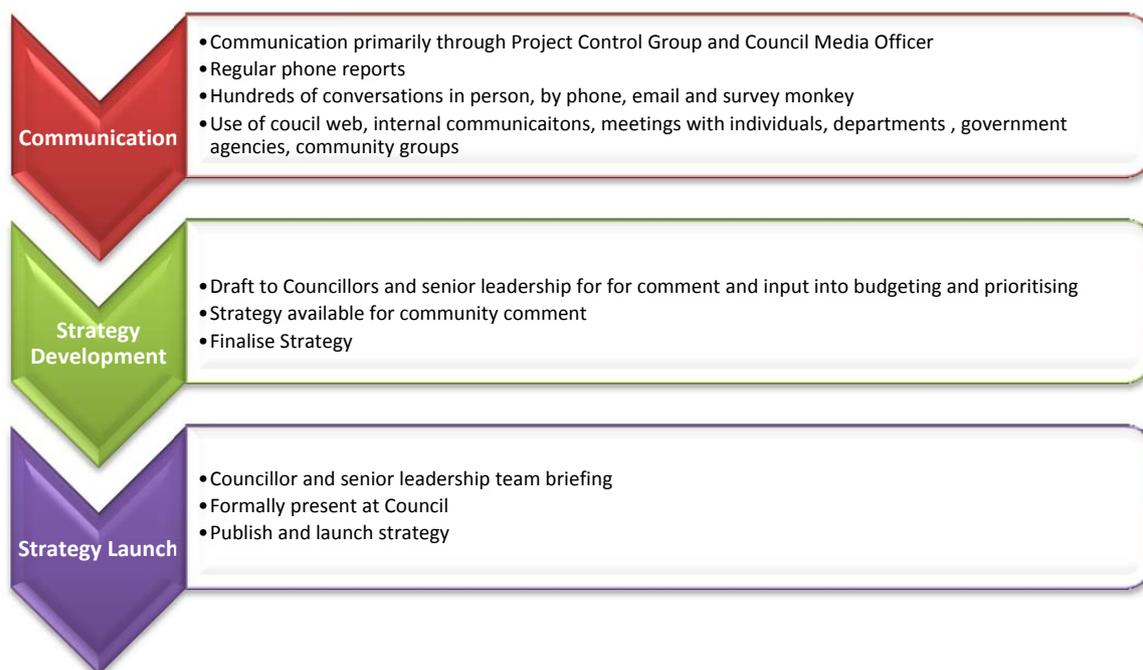
This Environmental Sustainability Strategy (ESS) project was funded with the support of the Victorian Government under the Victorian Adaptation and Sustainability Partnership Round 4 Accord funding. The initiative was designed to strengthen collaborative efforts by the Victorian State Government and local governments to create better environmental sustainability outcomes at the local level. Consultants, a team of three from Alchemy Living & Learning were engaged to assist in the development the ESS to provide strategic direction for planning and implementation for the period of 2013 – 2018.

The project brief developed by Loddon Shire Council indicated the importance of broad community consultation and to develop a plan that is integrated within the framework of Council's corporate goals, Council's budgetary capacity and service responsibilities; and which incorporated list of achievable short, medium and long term actions with appropriate costing, timelines and consequent priorities.

### 6.1 Literature review

An extensive literature review was undertaken of over 50 relevant documents:

- 12 strategies from other similar or nearby Shires
- 20 internal strategies, plans and documents in addition to 18 community plans
- 23 Agency, State and Federal Government documents



## 6.2 Community and staff input into strategy

During the initial consultation process all councillors were sent a copy of the survey and invited to participate. A number were also happy to be interviewed and were very helpful in directing the enquiries to active community groups and members. The survey was publicised on the Council website, local papers through the Mayoral column, email networks and local websites. Many phone calls were made to community organisations and surveys mailed or emailed to interested participants.

### 6.2.1 Summary of Inputs into the Strategy

Participants involved in the Sustainability Plan	Number
Staff surveys taken after presentation to whole of staff meeting	29
Online public surveys received using Survey Monkey	50
Agency Forum	15
Individual interviews	6
Loddon Shire Management staff	11
Hard copy surveys	10
<b>Total</b>	<b>121</b>

### 6.2.2 Community Organisations Contacted

Loddon Shire community organisations personally contacted and invited to have an input into the survey included:

- Northern District Community Health
- Boort Senior Citizens
- Boort CWA
- Boort Probus Club
- Boort Development Committee
- Representation from the Aboriginal Community via the Aboriginal Community Broker, DCS
- Dingee Progress Association

- Victorian Farmers Federation
- Wedderburn Lions Club
- Wedderburn Development Association
- Members of the farming community around Boort (5 individuals contacted)
- Neighbourhood House, Pyramid Hill
- Pyramid Hill Community Health Service
- Pyramid Hill Progress Association (Addressed meeting on 17<sup>th</sup> April at Pyramid Hill)
- Newbridge Football Club

#### 6.2.3 Loddon Shire managers interviewed

- Manager Community and Recreational Development
- Manager Community Planning
- Director Operations
- Manager Infrastructure Program Development
- Manager Tourism, Marketing
- Manager Financial Services
- Director Economy and Community
- Manager Community Services
- Manager Planning and Local Laws
- Manager Infrastructure Policy and Strategy
- Manager Works

#### 6.2.4 Government and other agencies participating

- Central Murray Regional Waste Management Group
- Department of Planning and Community Development Loddon-Mallee Region
- Parks Victoria
- Coliban Water
- Land Care Coordinator
- North Central Catchment Management Authority
- Department of Environment and Primary Industries
- Goulburn Murray Water
- Sustainability Victoria
- Environmental Protection Agency (EPA)
- Victorian Farmers Federation (VFF)

### **6.3 Strategy follow up**

It is recommended that the Council ensure that the community, local business and relevant stakeholders receive communication updates following the annual review of the ESS implementation. A public statement should be conveyed regarding Council's progress to date and a commitment to continual improvement in Environmental Sustainability for the Shire.

The actions identified and prioritised in the ESS will require budgetary costing, allocation of Shire resources and will need to be factored into future budgets. It is recommended that where possible other sources of funding, such as grants or co-funding models are explored to offset Shire expenditure.

## **7 KEY ENVIRONMENTAL THEMES**

The themes of the ESS and the recommended actions regarding them are interrelated. They are identified under the major headings of:

1. Energy Management
2. Water Management

3. Biodiversity
4. Land Management and Planning
5. Waste Management
6. Sustainable Transport
7. Business Development  
(Including sustainable agriculture and nature based / eco-tourism)

Actions relating to any one theme will inevitably affect other themes. As such they should be read in relation to each other. A decision to take action on agricultural practices for example will likely have a flow on effect environmentally, socially and economically and in transport, land management & planning, water, energy and waste management.

Issues identified under each theme have been identified throughout the consultation and engagement process. Some issues may merely need noting, others may flag a trend, others may require urgent action or be addressed in the course of time. Prioritisation of identified actions has been made in consideration of Councils resource capacity.

Any recommendations made in the main body of this report arise via a global, national and regional perspective along with issues identified within associated literature and local stakeholder consultation. The accompanying Key Actions and Recommendations document identifies and prioritises specific items recommended for delivery over the coming 4 year period. Given the rapidly changing social, political, economic, technical and natural environments in which the ESS was drafted, the items should be reviewed and reassessed on a regular basis.

## **7.1 Climate change**

The most recent assessment from the Intergovernmental Panel on Climate Change (IPCC) concludes unequivocally that the Earth's climate system is warming and that it is more than 90% certain that humans are causing it through activities that increase concentrations of greenhouse gases in the atmosphere (IPCC 2007). The primary greenhouse gases in the earth's atmosphere are water vapour, carbon dioxide, methane, nitrous oxide, and ozone, which have increased markedly as a result of human activities and now exceed values over the past 650,000 years.

Anthropogenic (human) activities that have led to increased greenhouse gas concentrations are the burning of fossil fuels, methane emissions from farm animals and land clearance. The Federal Government and all State Governments of Australia have explicitly recognised that climate change is being caused by an increase in greenhouse gas emissions and are taking action to reduce and offset emissions.

The IPCC (2007) states that, depending on the outcomes of global efforts to reduce emissions, global temperatures could rise by between 1.1 (low emissions scenario) and 6.4 °C (high emissions scenario) during the 21st century. The impacts associated with climate change are complex, with more frequent warm spells, heat waves, and heavy rainfall, as well as an increase in droughts, tropical cyclones, and extreme high tides expected. The past century in Australia has seen a rise in annual average daily mean temperatures of 0.9°C, slightly higher than the global increase of 0.75°C (CSIRO 2012).

The average temperature in Victoria has increased at a rate of 0.86°C per century since 1950, with projections from Climate Change Australia (2012) suggesting a rise of 0.6°C-0.9°C by 2030 and 1-2.5°C by 2070. Rainfall across Northern Victoria has reduced in most regions over the past few decades, with future projections suggesting a decrease in rainfall by up to 15% by 2030 (DSE 2008). There is also predicted to be increases in extreme weather events such as droughts, floods and fires across Victoria.

There are numerous projections outlined by the Grains Research and Development Corporation (2011) for North Western Victoria, including:

- An increase in average temperatures of 0.6 to 1.1°C by 2030
- Droughts will be more frequent and more severe
- Extreme rainfall will be more frequent

These projections are relevant to the Loddon Shire and will have an influence on many of the environmental themes addressed in this strategy and will be considered in the strategic planning and sustainability of the

actions prescribed in this strategy. The projected changes to the climate will have substantial impacts on agriculture, productivity and the environment of the Loddon Shire region. The natural environment and ecosystems will be under severe stress from higher temperatures and lower rainfall/stream inflow, as well as extreme events such as bushfire and floods. Agriculture in the region will see declines in productivity due to increased drought and higher temperatures, less water security, greater exposure of stock and crops to heat-related stress and a potential increase in the distribution and abundance of some exotic pests.

Whilst further anthropogenic climate change is inevitable, the worst projected effects of climate change can be avoided if action is taken to reduce consumption of fossil fuels, reduce methane emissions, stop land clearing and store carbon in actively growing trees. This presents a variety of opportunities and land use possibilities to the landowners in the Loddon Shire region.

The Loddon Shire Council produced a Climate Change Adaptation Plan in 2009, which provides a variety of action plans to reduce emissions, lower natural resource consumption and assist the Loddon Community to understand and adapt to Climate Change. The LSC has also incorporated adaptations, mitigations and actions relating to climate change into the Municipal Public Health Plan, Positive Ageing Strategy, Recreation Strategy, Economic Development Strategy and the Roadside Management Plan.

## **7.2 Energy management**

Energy management provides both challenges and opportunities in a world of limited resources and a carbon constrained future. Efficient use of energy is paramount to maintaining a sustainable budgetary position for any business or government organisation. Energy efficient practices have become vital to offset rising energy costs and lowering greenhouse gas emissions.

Despite lagging Europe in energy efficiency and low carbon economies, Australia is now pushing through a variety of energy reforms to improve energy efficiency, green-house gas reduction and renewable energy development and generation. The Carbon Pollution Reduction Scheme, Clean Energy Futures (CEF), Renewable Energy Target (RET) and Carbon Farming Initiative (CFI) are all recent to reforms aimed at improving energy efficiency and lower greenhouse gas emissions. The CEF aims to boost the renewable energy sector by providing funds and loans through programs like the *Solar Flagship Program* or other projects through the *Clean Energy Finance Corporation*.

There are various schemes and programs at a State and Local Government level aimed at reducing energy use and lowering emissions that residents and businesses can benefit from. Most projects, grants and schemes aim to install energy efficiency products in homes and businesses at either no upfront cost or with savings to energy bills and pay-back for installation over time. Other programs work on rebates or renewable energy credit programs to encourage house-holds and businesses to install solar hot water systems or solar panels.

Victoria is in a unique situation where around 90% of the state's electricity is generated from brown coal in the Latrobe Valley that could last a few hundred years at the current rate of use. However brown coal is a highly polluting and non-renewable energy source, with the Latrobe Valley susceptible to flooding, resulting in possible issues with energy security in the future. Loddon Shire is reliant on coal generated electricity, with no large scale renewable power plants up and running in the Shire at this stage. Whilst not technically located within Loddon Shire there currently is a large scale wind farm proposed in close proximity to the municipal boundary with the Buloke Shire. Additionally, approximately 5 years ago a solar power research and development facility was established at Bridgewater, which continues to operate today. Both of these projects have the potential to create employment and infrastructure, lower emissions or promote localised energy production.

However, until widespread alternative energy options are available within Loddon Shire, residents and businesses will need to explore effective energy consumption practices in order to improve efficiency across the Shire. Costs of energy and related infrastructure will continue to rise. With the introduction of the Carbon Price in 2012 and the falling price of renewable energy technologies, the Loddon Shire, with its vast expanses of solar resources and land suitable to large projects, is well placed for new energy investment.

Council's role is to anticipate changes to state and federal legislation and policy and implement early action to respond to these changes. The Shire can also work with state and federal government to ensure rebates attract investment to the region and investigate bulk purchasing of solar panels for residents and business. In simple

terms, relevant to all organizations and community, reduced energy consumption equates to reduced operational costs and environmental degradations.

### Summary of Issues

- Increased costs to maintain and improve energy infrastructure
- Increased energy costs for Shire and Community
- Climatic effects and outcomes from increased energy use
- A lack of energy security and certainty
- Recent changes to planning provisions/requirements for wind energy projects
- Sale of energy from large scale renewable projects difficult without retailers market or support
- No bioenergy projects in the Loddon Shire
- No detailed monitoring of energy use by the Loddon Shire Council
- Not enough solar panels on Shire buildings to offset power usage

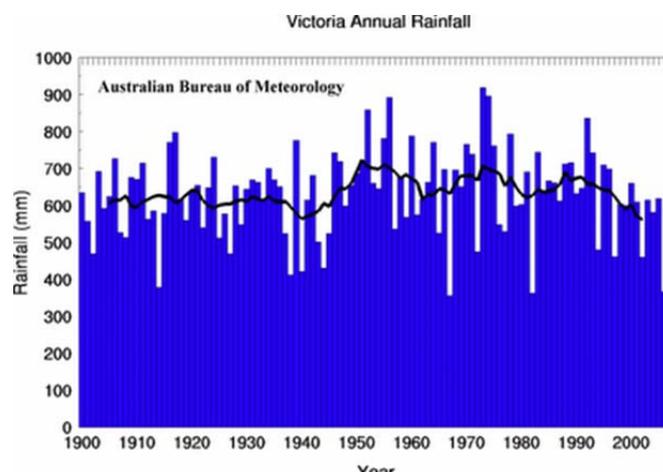
The Shire needs to investigate a system to monitor, record and report on the energy use of Council buildings against benchmarks set by similar municipalities and seek to demonstrate best-practice systems in record-keeping and performance. The energy efficiency of Council buildings needs to be assessed for potential improvements from retrofitting measures such as insulation upgrades, draught proofing and window treatments. In addition, the Shire should seek to improve its knowledge base on energy efficient housing to be in a position to advise residents, and seek to encourage new energy efficient housing by regulatory means.

The Shire needs to set an example in using renewable technologies such as PV on its own buildings and encourage the uptake for residents by providing information and regulatory support where possible. The encouragement of large renewable projects should continue as should the installing of panels on community buildings to reduce running costs. The Shire should seek to set up local reference groups to research and advise on emerging opportunities such as bio-fuels, bioenergy and carbon trading.

### 7.3 Water

Water is the life blood of the Loddon Shire region and plays an important role in many aspects of the environment, social amenity and the economic viability of the region. It is a natural resource with limited availability and is often the source of contention regarding allocation between the community, industry and the natural assets.

The great drought over the past two decades has had lasting impacts on both the community and the environment in the Loddon Shire but was followed by disastrous floods in 2011. Whilst the floods replenished the waterways and groundwater in the region, over 30% (approx. 2,200sqkms) of the Shire was impacted including many farms and towns. At its peak, the flood was reported to be 90 kms long and 50 kms wide. Subsequent damage assessment confirmed approximately \$40million damage was caused to Council managed infrastructure alone.



Source: BOM 2010: <http://www.bom.gov.au>

The Grains Research and Development Corporation (2011) predict a reduction of annual rainfall by up to 6% by 2030 and an increase in the frequency of droughts and extreme rainfall in northern Victoria.

The reduction in rainfall and water resources, as well as increased demand for water allocations has resulted in the need for the Loddon Shire to advocate for, and apply best practice management of water.

The Loddon Shire region features a number of river systems, water reserves, swamps and groundwater resources that contribute to the environment and economy. These water resources provide habitat for flora and fauna and also water for farms, industry and towns. The two major catchments in the region are the Loddon River and Avoca River catchments, which are part of the Murray Darling Basin. Whilst these catchments have historically provided the vital water allocations for the historical growth of agriculture and rural development of the region, both catchments are in a state of stress and the environmental condition of both catchments is relatively poor. It is imperative that advocacy and action be taken to restore these water catchments to ensure their sustainability to support ecological values, communities and industries into the future.

The northern region of the Loddon Shire contains large expanses of flood plains, which support a significant system of lakes and wetlands around Boort and Pyramid Hill. The North Central Catchment Management Authority (NCCMA) has identified the Lower Loddon River as a key floodplain in their Regional Catchment Strategy and aim to improve the condition of the Lower Loddon River from poor/moderate to good (based on Index of Stream Condition) by 2050.

Various modernisation and innovation projects have improved the conservation of water in the Northern Victoria, and will be critical to achieving better outcomes with less water in the future. A good example of innovation has been the Northern Victorian Irrigation Renewal Project (NVIRP), which replaced the largest open water channel system in Australia. The Loddon Shire Council has been a strong advocate of water conservation and management and provided input and feedback to the Murray Darling Basin Commission Plan. The Shire advocated that environmental flows should not be increased at the expense of irrigation allocations, but instead through modernisation and technology upgrades to improve water use efficiency.

#### **Summary of Issues:**

- Limited ability to influence or control the supply/quality of water for residential, agricultural and commercial use.
- Opportunities to explore alternative waste water management systems including on-site or reticulated reuse.
- Requirement to review and update Councils Domestic Wastewater Management Plan.
- Urban drainage systems are not designed to accommodate rainwater harvesting or manage rainfall events exceeding 1:20 ARI.
- Water security is needed for recreational water use and tourism.
- Dated technology and practices contribute to reduced water use efficiency.
- Improvement in to the quality and security of waterways and wetlands remains a focus.
- Improvement in water quality for reticulated township supplies.
- Loss of important riparian habitat around waterways during the drought.
- Changes in the irrigation system and water rights, with a lack of certainty around environmental flows.

## **7.4 Biodiversity**

Biodiversity refers to the variety of life forms within a given landscape, or ecosystem, and is commonly used to measure the health of our ecosystems. Northern Victoria is a dramatically altered landscape, mostly from the pursuit of agricultural practices, mining and timber production, which have all reduced biodiversity since European settlement. The NCCMA (2012) state that the North Central region is one of Australia's most highly cleared and fragmented landscapes and while development has resulted in a productive and vibrant regional economy it is now crucial to protect and rebuild biodiversity assets for the future. The scientific function of biodiversity provides a range of vital ecosystem services critical to human health, such as the provision of clean drinking water, clean air, carbon sequestration, timber supplies (fire wood), breaking down our waste and improving the health of soils.

The northern region of the Loddon Shire is mostly sweeping riverine plains, interspersed with a number of granite outcrops in the north-east which contains a number of intact tracts of native vegetation (e.g. Pyramid Hill and Mount Hope). The Boort area in the north-west contains important sand hills and wetlands that support a diverse range of fauna and flora. The riverine plains support remnant native grasslands and grassy woodlands,

which are an important vegetation classification due to their rarity. The southern area of the Shire is undulating hills covered in a mosaic of farmland, grassy woodlands, and large areas of box-ironbark forests managed by DSE and Parks Victoria.

The Loddon Shire contains important components of the intricate and diverse patchwork of the State's environment and its biodiversity. The majority of biodiversity occurs on the larger tracts of public land but there are significant remnants of native vegetation and habitat on private land and roadsides. Native grasslands, grassy woodlands and box-ironbark forests are natural assets of the region and are rare and have limited protection. There are numerous rare and threatened flora and fauna including the Grey-crowned Babbler, Plains-wanderer, Brush-tailed Phascogale, Spot-tailed Quoll and Striped Legless Lizard (DSE 2006a).

Measuring improvements or declines in biodiversity and ecosystem health can be done using indicators such as habitat hectares, connectivity of sites, changes in the number of threatened, endangered or extinct species, tree cover and community participation in environmental programs. The Loddon Shire Council have historically been active in promoting biodiversity and improving ecosystem health through the Land Care networks and will address declines in biodiversity through actions in this strategy.

The Loddon Shire contains important natural assets vital to protecting and enhancing regional biodiversity including Terrick Terrick National Park, Kooyoora State Park, *Leaghur State Park*, *Inglewood Nature Conservation Reserve*, *Tarnagulla Nature Conservation Reserve* and *Wychitella Flora & Fauna Reserve*. The NCCMA has also identified numerous biodiversity assets for investment over the next five years in their Regional Catchment Strategy 2012-2018 including Wandella, Pyramid Hill, Wedderburn/Wychitella and Inglewood/Rheola. This will improve the biodiversity and ecological health of these landscapes through revegetation, grazing management, riparian zone conservation and removal of noxious weeds.

#### 7.4.1 Invasive plants and animals

Invasive plants and animals (IPA) have impacted our natural environment, agricultural industries and social amenities in Victoria since European settlement. Many IPA have the potential to reduce primary production, displace native species, impact on social amenity and contribute to land and biodiversity degradation.

DPI (2011) state that the annual cost of invasive plants to Australian agriculture is estimated to be \$4 billion. Most of these costs are through yield losses, treatment of invasive species and product contamination. In 2006–07 an Australian Bureau of Statistics survey calculated the direct cost to agricultural businesses in Victoria of controlling and managing invasive plants to be \$253 million (DPI 2011). Large infestations of IPA can establish quickly under the ideal conditions and can be very costly to manage relative to the productivity value of the land. Invasive plant spread is ranked second only to habitat loss in causing biodiversity decline, with many landscapes now almost completely replaced with exotic and invasive species across Victoria.

In 2010 the Victorian Government developed the Invasive Plants and Animals Policy Framework, which introduced the biosecurity approach to managing invasive plants and animals. The Department of Primary Industries (DEPI) are the lead department for the management of invasive plants and animals in Victoria, and have the legislative powers under the Catchment and Land Protection Act 1994 to ensure landowners and land managers take all reasonable steps to manage invasive species on their properties. The biosecurity approach to managing invasive species aims to prevent the entry of new high risk IPA, eradicate those that are at an early stage of establishment and contain where possible species that are beyond eradication and take an asset-based approach to managing widespread invasive species (DPI (2010)).

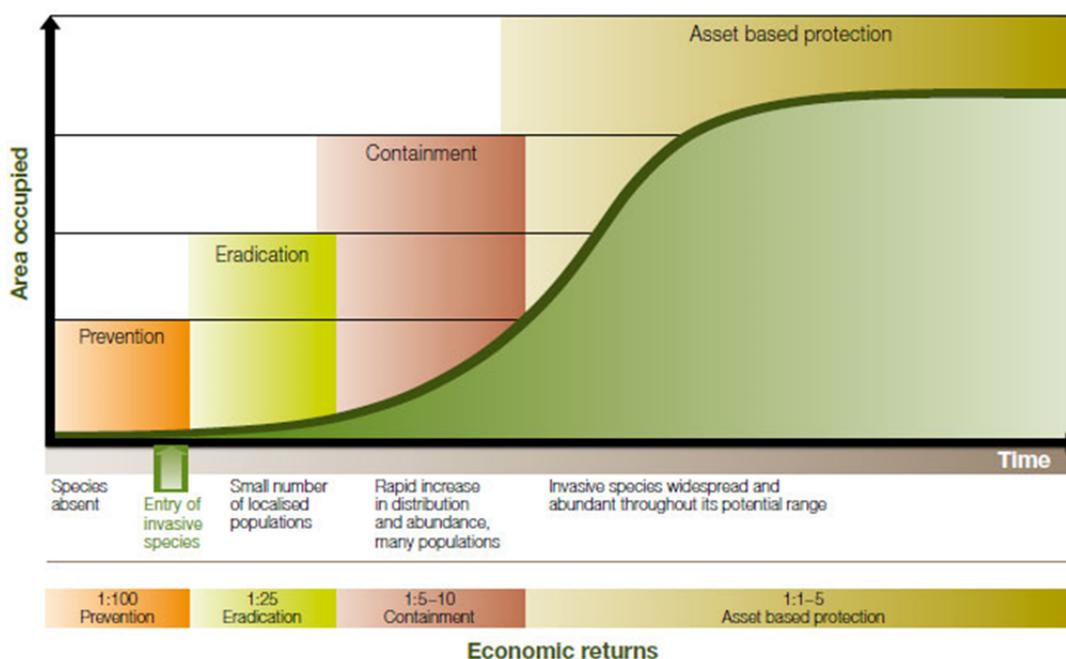
The biosecurity approach (see figure 2) is an historical shift in IPA management, away from focusing resources on the most common and established species, towards prevention and early intervention of high risk IPA species. An important principle to this approach is investing public money where it produces the most public benefit, which can be applied to invasive plant management in the Loddon Shire region.

The legislative requirements for the control of invasive species vary from region to region and the priority of a species may vary to reflect the systems they impact on and the level of threat they pose. Declared noxious weeds are plants which have been proclaimed under the *Catchment and Land Protection Act 1994* (CaLP Act) as species that cause agricultural, environmental or economic harm, or have the potential to do so in the state of Victoria. The legislation requires that these weeds be controlled, eradicated, not transported and/or not sold in Victoria. There are four categories of declared noxious weeds:

- State Prohibited

- Regionally Prohibited
- Regionally Controlled and
- Restricted

Figure 2: Generalised invasion curve showing actions appropriate to each stage



The responsibility for control of a noxious weed depends on its category, with Regionally Prohibited Weeds being the highest category of invasive plants that the landowner/manager has the responsibility of managing towards eradication. The remaining categories of invasive plants are environmental weeds (some declared noxious), agricultural weeds (some declared noxious) and aquatic weeds (some declared noxious), which refers to the landscape they occur within.

The Loddon Shire, as a landholder, has responsibility and is legally required to control declared invasive plants and animals that occur on Council owned or managed land. Rabbits, foxes and a number of weed species are considered to be significant pests in the Loddon Shire area. In 2006 the Shire developed and implemented the *Weed Management Strategy for the Loddon Shire Council*, which aims to facilitate coordinated management of weeds by integrating existing weed management objectives as defined by national, state, and regional legislation and policies, along with priority weeds in Loddon Shire (see Appendix 1). The full list of noxious weeds present in the shire is contained in the Weed Management Strategy, which will require updating once DPI completes the development of the new IPA legislation.

### Summary of Issues:

- Invasive plants and animals are invading private and public land, causing a decline in biodiversity.
- Requirement to improve control of invasive plants and fire risks on public land.
- Absentee landowners may not be adequately managing their land for invasive species or biodiversity.
- A lack of public understanding of environmental legislation, policies & obligations.
- Changed hydrology and altered water regime of rivers, catchments and wetlands.
- A lack of support for Land Care and Environmental Groups through the region.
- Declining biodiversity and high value conservation areas in the Shire.
- A lack of linkages between public land biodiversity assets and a lack of bio-links in the region.
- Protection for the rare and threatened ecological vegetation assets of native grasslands, grassy woodlands and box-ironbark forests.
- Numerous rare and threatened flora and fauna including the Grey-crowned Babbler, Plains-wanderer, Brush-tailed Phascogale, Spot-tailed Quoll and Striped Legless Lizard (DSE 2006a).

## **7.5 Land management and planning**

Strategic and statutory planning are key legislative roles for Council to build and plan for future growth and sustainable development in the region. All local governments have a role in planning and managing for land use change and can use the powers of the planning scheme to direct growth in a strategic and sustainable manner.

The Loddon Shire is experiencing some marginal economic and residential growth in the south, mostly within commuting distance of the regional city of Bendigo. This is in contrast to the central and northern regions of the Shire, which are experiencing declines in population and demand for land and services.

Profile.id (2013) claim that currently 1% of the privately owned land is occupied by house blocks or lifestyle properties, with the majority held in large, broad acre farm holdings. This is not surprising given that agriculture is the major employer in the Shire and agricultural land is a key asset of the region. Land use and strategic planning for changes to land use are administrated through Council's implementation of the Planning Scheme in accordance with the provisions of the Planning and Environment Act (1987).

The balance between progress and conservation requires that land with high environmental or agricultural value is not rezoned for inappropriate uses. The Loddon Shire, like all local governments, can encourage sustainable industries, businesses and agriculture through its planning scheme and economic development strategies assessed against triple bottom line of sustainability. Sustainable land management planning aims to minimise the environmental impacts of existing industries, businesses and agriculture, as well as minimizing the environmental impacts of urban growth and development.

The Loddon Shire Council has prioritised creating opportunities for business and residential development in Loddon Shire ahead of demand in the Council Plan 2013-2017. The council plan has numerous actions to support this priority, along with the planning scheme and other state and local policy documents that promote development in the Shire. The Shire recently conducted a strategic land planning review through the Rural Zones Review 2012, which seeks to reinforce a balance between Council's desire to accommodate new residents in a range of localities and environments, protect farming assets and protect environmental assets. This will allow the Shire to progress with appropriate and sustainable development and identifies rezoning areas that have limited or no agricultural prospects suitable for residential and business development.

Importantly, the Shire has also developed a strategic policy position on rural land use issues such as renewable energy development and supporting rural industry in order to support growth in these industries. The Rural Zone Review also resulted in some important environmental outcomes, with numerous private land allotments with rare or vulnerable vegetation and habitat for fauna being rezoned for inclusion in the Rural Conservation Zone (RCV). The Housing Strategy 2009 provides direction for land use planning and recommends the development of housing estates in Wedderburn and Bridgewater and improved infrastructure in key areas of demand.

### **Summary of Issues:**

- Changing Demographics in region with ageing populations.
- Many absentee landowners with land management issues and invasive species not being managed.
- Requirement to grow local employment opportunities.
- Land use incompatible with land type (changing environments and climate)
- Compliance with the Planning and Environment Act, such as unauthorised vegetation removal.
- Improvements in communication between agencies and public on land management issues.
- Expansion of number of firewood lots or communal firewood areas.
- Exploration of native vegetation offset opportunities.
- Buildings and planning needs to be embedded with best practice sustainability practices.
- Developments are not adding native vegetation or fauna habitat to offset the losses.

## **7.6 Sustainable transport**

Sustainable transport aims to strike a balance between efficiency, economic feasibility and environmental sustainability. It has the potential to reduce greenhouse gas emissions, improve environmental health and provide a safe alternative to driving, as well as increase community resilience to future peak oil scenarios. New

developments and strategic town planning can design transport systems so there is less need to travel long distances and ensure that services are close to areas of population growth.

The Victorian State government, through the Department of Transport, Planning and Local Infrastructure, is currently developing sustainable transport projects and initiatives to help achieve sustainable transport throughout Victoria. One of the main drivers for sustainable transport is the need to take action on reducing the impacts of climate change, which is one of the greatest challenges of our time. The current transport systems throughout Australia have a detrimental impact on the environment and our social amenity, with DTPL (2013) stating that most of our air pollution and around 16.5 per cent of our greenhouse gas emissions come from transport.

The challenge for Loddon Shire is the geographically dispersed population, the low population density, declining population and the large area the Shire covers. This is in contrast to the urban shires of Melbourne, who have the opposite characteristics, making sustainable transport options easier to develop and implement.

DTPL (2013) claim that sustainable transport should entail the following:

- meet the social and economic needs of the present without compromising future generations' ability to meet their own needs
- protect the environment, locally and globally in the short and long term
- provide and promote lower carbon transport options
- be safe and support improved health and well-being.

The community and businesses of the Loddon Shire region currently rely on car travel and heavy vehicle freighting, with a limited and infrequent rail and bus networks. There are opportunities for many of the short trips throughout the Shire to be substituted with improved public transport and improvements to walking and cycling infrastructure. Public and sustainable transport is also vital for the aging population of the Loddon Shire region, who will need to travel to services and appointments in the regional centres. Sustainable transport in the Loddon region can also be achieved through improvements to the environmental efficiency of the current transport activity and the transport fleet.

#### **Summary of issues**

- Quantity of heavy freight on local roads throughout Shire.
- A lack of rail infrastructure to reduce reliance on road freight.
- Public transport between towns lacking and runs at a loss.
- A lack of public transport with disability services.
- Community bus services need more support and resources.
- Aging population resulting in less people being able to drive and more public transport required.
- Freight depots closing, with rail still too slow to compete with heavy vehicles.
- Not enough public transport from V/Line train stations to Loddon towns.
- No share car scheme set up in the region.

### **7.7 Business and industry**

Attracting and maintaining business and industry is crucial for the sustainability and survival of rural shires and communities across Northern Victoria. Also crucial to the economic development of these regions is the diversification of industry and businesses in order to provide resilience against global trends and changes in the market place.

The Loddon Shire Council acknowledges this priority in the Council Plan 2013-2017 and has a key focus area on economic development to create more jobs by supporting and expanding Loddon's economy. This key focus area will be achieved through the following actions:

- Developing infrastructure to support economic growth
- Encourage an excellent customer service culture in Loddon's businesses
- Create economic opportunities in Loddon
- Support current business to thrive and grow

Agriculture is the major employer in the Shire but other industries such as retailing, manufacturing and tourism are also important sectors. The Loddon Council is committed to ensuring that these sectors continue to grow and prosper. However the agriculture sector faces increased competition on global markets and is driven by the challenges of reform and climate change.

Adaption and innovation will be required to continue prosperity on agricultural land. Changes in the agricultural sector also create opportunity, for example with the rise of organic farming and the fine food sectors providing opportunity for diversification. Businesses and industry providing innovation and technological expertise in water and energy use efficiency would be most beneficial to attract new enterprises to the Loddon Shire region, given the scarcity of both of these natural resources.

Developing a sustainable business environment involves not only supporting existing industries, but also identifying, supporting and developing new industries to become major contributors to production and rural sustainability. New industries can provide opportunities for existing industries to adapt to change and offer efficiencies and clustering opportunities.

Business clustering of similar industries and companies can provide useful synergies and is important to regional economic sustainability. Clustering opportunities may exist in the renewable energy sector and the low carbon economy that would benefit existing business and new businesses alike. Given the renewable energy resources in the region, large scale energy projects would be beneficial and feasible with Council support and partnership. There is a natural fit for business development in renewable energy and associated enterprise in this region through for-profit, not-only-for-profit business or community based enterprise.

There are numerous state and federal government innovation and business growth programs that could assist Loddon in sustainable economic development, as well as educational institutions that could provide additional training to areas of skills shortages. Council can play a role in initiating activities or fostering the development of both business and community projects alike.

#### 7.7.1 Nature based tourism

Nature based tourism refers to any type of tourism that relies on activities or experiences related to natural attractions. Nature based tourism is also referred to as ecotourism, adventure tourism, extractive tourism, wildlife tourism and nature retreats. Of all tourism in Australia, nature based tourism is the most significant and accounts for 62% of international and 16% of domestic overnight tourism and is a growing segment of the tourism industry. Nature based tourism can and does educate tourists and visitors on the environmental and cultural significance of regions and natural assets.

One of Loddon Shire's assets identified in the Tourism Strategy 2011-2016 is the abundance of activities that can be carried out within the state and national parks and on and around the rivers and lakes. Nature-based tourism is one of a range of visitor experiences identified within the vision of the strategy, along with culture and heritage, food and wine, agri-tourism and festivals and events. Shire assets include the Loddon River, Terrick Terrick National Park, and Kooyoora State Park, Pyramid Hill/Mount Hope, Wychitella Reserve and the lakes at Boort.

During the drought, diminished water resources had a detrimental effect on visitor numbers interested in water skiing, fishing and bird watching, as well as walking and cycling. The following floods also were detrimental to visitor numbers. Among the many challenges facing the tourism industry in Loddon is how to respond to the demand for sustainable tourism (4.9 Responding to the Demand for Sustainable Tourism, P 13), which is identified as a major growth market.

The Shire has limited financial resources to invest in tourism, which is currently seen as a low-return area with visitors spending less in Loddon than the Victorian and National average. There is also a shortage of accommodation for visitors.

One specific area of focus was to re-build the Bridgewater Caravan Park following the floods, and around \$3.4M has been spent on this infrastructure on DSE land, with a completion date of 2014 expected. In response to the flood events, most habitable assets have been raised up above the 100-year flood level, with only camping at the lower levels.

#### **Summary of Issues**

- Declining and aging populations through region.

- Security of business resources and industries in declining rural towns.
- No broadband internet in some places throughout Shire.
- Better use of rail needed for business growth.
- A lack of small scale and large-scale renewable energy projects, despite ample sun.
- Commuter roads to Bendigo too slow and makes commuting less desirable.
- There are not enough eco-tourism businesses, despite some excellent assets throughout the Shire.
- There is a need for farmers to adapt to change and explore new technologies and business opportunities.
- A lack of communal or shared farms with intensive diverse commodity production.
- Farmers and producers are subject to a changing climate and global commodity prices.

## **7.8 Waste management**

Consumption of resources and the associated generation of waste have a major impact on the environment and social amenity of rural and regional Victoria. The reuse and recycling of waste and by-products can have positive economic, social and environmental outcomes and will be vital in a world with limited resources and a growing population. Waste is a massive problem, whether it is greenhouse gas emissions from landfill or a source of pollution for our ecological landscapes.

Waste creation and disposal is a major issue for community, business, government and the environment and has significant cost to the budget of businesses, government and community alike. Reuse and recycling of waste has seen rapid growth over the past few decades, mostly due to cost-saving measures from business and government, and also increased environmental education regarding the issues arising from waste disposal.

The issue of waste management is a broad one and is most commonly viewed and managed through a hierarchical approach that promotes waste avoidance ahead of recycling or disposal. The waste management hierarchy is prevalent in most current waste strategies and promotes an order of preference of: Reduce, Reuse, Recycle. Each of these three options is considered to be preferable to creating waste that goes to landfill or other means of disposal.

The Loddon Shire Council is a member of the Central Murray Regional Waste Management Group (CMWMG) along with the Buloke Shire Council, Gannawarra Shire Council, Swan Hill Rural City Council and Wakool Shire Council. The CMRWMG seek to minimize the cost of waste management for all of its members, while maximising reuse and recycling (CMRWMG, 2013).

The group is mostly funded from Sustainability Victoria to run various projects across the region and employs a Regional Education Officer at Wedderburn to deliver its Community Engagement Program. The Loddon Shire Council is involved in the CMRWMG Waste Wise Local Government Accreditation Program, Plastic Bag Free Towns program and Waste and Litter Strategies.

The Loddon Shire is leading the state of Victoria by example on the plastic bag free towns project and recycling at Council offices. It does however face the challenges of a dispersed population in terms of roadside waste collection and relatively small landfill and recycling depots. Opportunities currently exist to offset greenhouse gas emissions produced from landfill through bioenergy production using methane and other gases that arise from landfill.

The Clean Energy Future package, managed by the federal government, provides opportunities to profit from turning waste into energy. However, the relatively small size of the landfill depots in the Loddon Shire may make it mostly uneconomical to set up such projects, but investigation into a regional resource recovery centre might be a possibility to produce some energy from waste.

The Loddon Shire currently delivers the provision of kerbside rubbish and recycling collections, as well as public recycling facilities and the operation of transfer stations. These services are at cost and are included in the rates.

### **Summary of Issues**

- A lack of education among residents and businesses regarding avoidance and recycling of waste.
- An increase in E-Waste, leading to environmental damage.

- Consumer goods and waste dumped on public/private land, as the tip is expensive.
- Online sales increase consumerism and waste.
- Packaging is excessive on most commonly purchased items.
- LSC should be able to recycle and resell green waste (energy or mulch).
- Not enough towns are on town sewerage, limited development and residential building opportunities.

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**APPENDIX 1:**  
**ENVIRONMENTAL SUSTAINABILITY STRATEGY**  
**2013 – 2018 ACTION PLAN**