



Strategic Plan Structure incorporating NRM and Climate Change Outcomes and Actions



Prepared for the Regional Council of Goyder

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Sustainable Focus Pty Ltd
14 Tucker Street
Adelaide SA 5000
08 8232 2552

ABN 68 147 363 371

www.sustainablefocus.com.au

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Vision

To be developed through facilitated workshop with Elected Members and Senior Staff.

Mission

To be developed through facilitated workshop with Elected Members and Senior Staff.

Guiding Principles

To be further developed through facilitated workshop with Elected Members and Senior Staff. These principles focus on NRM/Climate Change, but may be more generally applicable.

Work collaboratively and cooperatively

- Facilitate effective community and stakeholder engagement, as well as coordinated action
- Develop 'strategic' partnerships – for projects, communications, research and planning
- Attract investment to the region to assist with implementation of this plan

Celebrate success

- Acknowledge and promote leadership within the community as well as Council's achievements

Encourage a holistic approach

- Facilitate integration between economic, social and environmental systems and sectors
- Demonstrate how climate change and NRM actions provide social, economic and environmental benefits

Promote a learning culture

- Learn from experiences outside our region
- Plan for uncertainty
- Adopt an adaptive and responsive approach to implementation

Ensure good governance

- Ensure transparency in Council planning, operations and management

About Goyder Regional Council

The Goyder region is situated in the Mid North of South Australia, extending from Terowie in the north to Eudunda in the south. The Council area is named after George Woodroffe Goyder, whose renowned Goyder's Line traverses each of the former Council districts of Hallett, Burra, Robertstown and Eudunda. These four district Councils amalgamated in 1997 to form the Regional Council of Goyder.

The population of Goyder is 4,360, and the major towns are Eudunda, Terowie, Burra, Whyte, Yarcowie, Hallett, Mt Bryan, Booborowie, Farrell Flat, Robertstown and Point Pass.

National Highway 1 runs along the western edge of the Mid North region providing good links with Adelaide and major centres to the north and west of the State. To the north east lies the Barrier Highway, the main route between Adelaide, Broken Hill and Sydney. The sealing of the Burra-Morgan Road has given easy access to the Riverland and Victoria.

About this Strategic Plan

This strategic plan is organised around five objectives:

1. Responding to climate change and sustaining our resources
2. Creating strong and resilient communities
3. Sustaining a diverse local economy
4. Managing our infrastructure and assets
5. Providing leadership in governance and financial management

For each objective, there are a series of outcome areas and actions. It is recognised there are many inter-relationships between the objectives. For examples “Creating strong and resilient communities” (objective 2) is underpinned by many of the outcomes and actions within objective 1. For ease of implementation, all climate change and NRM actions are contained within objective 1. To read more about this document and how it was prepared, please see Appendix 1.

Council roles in delivering this Strategic Plan (NRM/Climate change focus)

Council plays a number of roles in relation to climate change and NRM, as outlined below.

Role	Description
Leadership	Council ensuring that climate change and NRM considerations are integrated in its own operations and decision making. Council builds its internal capacity to manage and lead effectively, and leads community debate
Regulatory	Applying land use planning and development control to minimise risks from climate change impacts like flooding and bushfires, as well as manage NRM issues like Water Affecting Activities (WAAs)
Information provider	Providing information on key NRM and climate change challenges and opportunities
Advocate	Council advocating on behalf of the community on climate change and NRM issues, including up-to-date information to inform decision making
Facilitator	Council facilitating or initiating community, business and other relevant parties/ involvement in the development of responses to climate change or NRM
Agent	Council providing a service on behalf of another party that funds the service
Part funder	Council contributing funds or resources as one of a number of parties that contribute towards an initiative or service
Direct service provider	Council undertaking services, capital works and projects that minimise the impacts of climate change and facilitate effective NRM

Source: Adapted from City of Onkaparinga, Climate Change Strategy, 2008.

Planning framework

When this strategic plan is finalised, it will form part of a suite of plans required under the Local Government Act, including:

- Asset Management Plan
- Financial Management Plan
- Business Plan including resources, timing and performance indicators

STRATEGIC PLANNING STRUCTURE



Reporting and performance measurement

Council will prepare an annual report, outlining progress in implementing this strategic plan. Council will establish a small number of targets for each objective. Suggested targets for objective No. 1 are provided under each outcome and below.

Proposed targets for Objective 1

- Staff member appointed to implement climate change initiatives by October 2011
- All relevant staff and Elected Members participating in training by June 2012
- YAC participating in implementation of climate change and NRM actions by December 2011
- Briefing pack prepared about future scenarios of climate change for Goyder region by July 2012
- Community engagement protocol developed by December 2011
- Regular meetings established with NRM Groups and relevant community groups by October 2011
- Report completed on Council's greenhouse emissions and water consumption by June 2012
- Action taken in relation to Burra Creek catchment and groundwater monitoring by December 2011
- Energy and water saving opportunities for Council identified by December 2012

Also indicate which SASP targets are relevant when revised targets are available.

Acronyms

The following Acronyms are used in the outcomes and actions for Objective 1:

BOM	Bureau of Meteorology
CFS	Country Fire Services
CLGRSA	Central Local Government Region of SA
CMCs	Community Management Committees
DENR	Department of Environment & Natural Resources
DfW	Department for Water
DPC	Department of Premier and Cabinet
DTED	Department of Trade and Economic Development
DTEI	Department of Energy, Transport and Infrastructure
LGA	Local Government Association
MNRDB	Mid North Regional Development Board
NRMB	Natural Resources Management Board
RDA	Regional Development Australia
SAFF	South Australian Farmers Federation
SAMDB	South Australian Murray-Darling Basin
TCNMLR	Transition Communities of Northern Mt Lofty Ranges
WAA	Water Affecting Activities
WSUD	Water Sensitive Urban Design

Objective 1: Responding to climate change and sustaining our Resources

About climate change

Australia and the globe are experiencing rapid climate change. In South Australia, there has been a 1.1° C warming since 1950 (DENR 2010), as well as a decline in rainfall, and an increase in the number of heat waves.

Long-term global climate trends are occurring alongside normal weather variations that happen naturally over seasons or decades. Although our scientific understanding of climate change is rapidly evolving, the evidence and data is sufficient to inform decision-making and action. There is greater than 90 per cent likelihood that most of the global warming seen since the mid 20th-century is due to increases in greenhouse gas emissions (CSIRO 2010 and BOM 2010).

The best projections of the climate indicators for the South Australian Murray-Darling Basin Natural Resources Management region indicate that conditions will generally be warmer and drier.

More detailed Predictions for the SAMDB region are summarised in the following reports:

- 'Regional Climate Change Projections: South Australia Murray-Darling Basin' (DENR, 2010)
- Strengthening Basin Communities Program Planning Component Consultancy SBC033A.1/2 Climate Change Scenarios Information Milestone 2 Report (Environment Institute, University of Adelaide)

The Milestone Reports are available from <http://www.goyder.sa.gov.au/site/page.cfm>

The Department for Climate Change and Energy Efficiency website contain further information as well as frequently asked questions about the reliability of climate models - <http://www.climatechange.gov.au/climate-change/science.aspx>

Impacts of climate change

Climate change will have direct and indirect impacts on all communities and individuals. Therefore we need to adapt to climate change as well as reduce emissions, preparing for impacts like higher temperatures, less rainfall and more extreme weather events. It is at the local and regional level that most adaptation measures will need to take place. It is generally agreed that the longer we delay action to both minimise greenhouse gases and adapt to the impacts of climate change, the more costly and challenging adaptation will become. Communities that are stronger and better prepared (more resilient) will also be better equipped to deal with threats and embrace opportunities presented by a changing climate.

Table 1 summarises some of the issues that will be faced by people and the natural environment in the Goyder region. While there are potentially many negative impacts from climate change, there are also opportunities, particularly for communities who are proactive and respond creatively. These opportunities include:

- Energy conservation and renewable industries
- Development of sustainable food and farming systems, including soil carbon capture technologies and drought-tolerant crops
- Increased competitiveness of local products as transport costs rise
- Increased community interaction and involvement
- Biosequestration and other ecosystem services

Table 1: Climate change issues and likely impacts in Goyder Regional Council area

Issue	Current and likely future impacts of climate change
Infrastructure	<ul style="list-style-type: none"> • Roads: Changes in rates of deterioration • Buildings: Changes in building heating/cooling costs; changed climatic conditions may increase deterioration
Water	<ul style="list-style-type: none"> • Uncertain water availability • Changes in availability of groundwater and surface water for agriculture, irrigation, fire management and minerals/energy development • Salination of surface and groundwater supplies • Impact on public open space, trees and ovals • Reduced availability of water for road maintenance
Human health & wellbeing	<ul style="list-style-type: none"> • Changing climatic conditions will increase some vectors of disease and increase the occurrence of some diseases. • greater risk to health from heat waves – especially vulnerable groups like the young and elderly • Increased risk of heat-induced food and water borne disease • Increased demand for cool spaces • Food prices and quality may be affected
Tourism	<ul style="list-style-type: none"> • May be threatened by a drier, hotter climate
Agriculture	<ul style="list-style-type: none"> • Numerous impacts including shorter cropping season; livestock heat stress, decline in pasture productivity, impacts of extreme weather events
Recreation and sport	<ul style="list-style-type: none"> • Hotter, drier climate will affect many sporting activities – may need to change times or selection of sport • Increased demand for shade/lights • Harder playing surfaces leading to sports injuries
Emergency management – flooding and storm damage	<ul style="list-style-type: none"> • Less frequent but more intense rainfall events are likely to change inland flood events • May be increase in storm events • Increased emergency response and recovery operations
Emergency management – bushfire	<ul style="list-style-type: none"> • Longer, drier conditions are likely to increase the frequency and intensity of bushfires • Changes in weed growth patterns increase costs of management and potential impacts on biodiversity • Increased emergency response and recovery operations • Risks to public safety and regional economies
Biodiversity	<ul style="list-style-type: none"> • Shifts in distributions of plant and animal species • Increased risk of population and species extinction • Reduced ecosystem resilience to stress • Street trees under stress due to drier, warmer conditions. New species needed

Adapted from Table 4, Kellett, B., Summers, D., Barnett, K., Siebentritt, M., Meyer, W., Spoehr, J. (2010). Milestone 1 Report and a workshop with Goyder Regional Council staff, 1 December 2010

Definition of NRM

Natural resources management (NRM) is an approach to managing our environment that strives to achieve a balance between our collective need for resources and the needs of our environment. Natural resources include air, water, land, soil, plants, animals and micro-organisms, and the ecosystems they form (SAMDBNRMB, 2009).

Local government plays a significant role in management and protection of natural resources, and holds specific responsibilities under the *Natural Resources Management Act, 2007* as a significant landholder.

Outcome 1.1 Council has improved capacity to manage NRM and climate change issues

Actions	Partners
Provide (face-to-face) training to Elected Members and staff on climate change and NRM issues, incorporating the latest science, local and regional impacts and relevant legislation and policy	BOM, universities, LGA, State Government, other Councils
Identify key climate change and NRM issues with knowledge gaps – e.g. roadside management of biodiversity and weeds	Other councils, NRMB, State Government
Identify and adapt research, policies or initiatives developed outside Goyder region	CLGRSA, Research institutions
Actively monitor funding opportunities that will assist with implementation of this plan. Where relevant, promote funding opportunities to local groups/individuals	RDA, LGA, NRMBs
Advocate to State Government, LGA and NRMBs for access to timely, accurate information on climate change to inform decision making and share with the community	DPC, LGA, NRMBs
Appoint a suitable qualified staff member to oversee implementation of this objective, with external funding assistance if available	

Council roles

Leadership, advocate, information provider, service provider, agent

Target

- Staff member appointed to implement climate change initiatives by October 2011
- All relevant staff and Elected Members participating in training by June 2012

Outcome 1.2 Goyder communities have improved capacity in relation to NRM and climate change

Actions	Partners
Create opportunities for informed, engaging speakers to present to communities	Other Councils, NRMBs, NRM Groups
Provide forums for community conversations about climate change risks and opportunities, as well as mitigation and adaptation ideas and local NRM issues, e.g. the benefits of biodiversity	LGA, NRMBs, NRM Groups, CMCs, DPC, SAFF, Ag Bureaus, Industry groups, PIRSA, TCNMLR
Develop a briefing pack about the future scenarios of climate change for the Goyder Regional Council	NRMBs, BOM, DENR, DPC, LGA, other Councils
Keep community informed of NRM/climate change policy changes or plans that impact on the region	NRMBs, NRM Groups, DENR, DPC, LGA, CMCs, media
Promote Council and community projects already undertaken or planned that have positive NRM or climate change outcomes.	CMCs, NRM Groups media
Work with Councils Youth Advisory Committee (YAC) and schools (through NRMB programs) to identify ways of involving young people in NRM and climate change action	NRMBs, YAC, schools
Identify 'early adopters' of innovative and effective NRM action and/or responses to climate change, and seek their assistance in broadening community awareness and action	NRMBs, NRM Groups, Ag Bureaus, Industry and community groups
Support and promote community action on NRM/climate change, highlighting local leaders	NRMBs, NRM Groups, CMCs, Ag Bureaus, media

Council role

Leadership, advocate, information provider, facilitator agent and part funder

Targets

- YAC participating in implementation of climate change and NRM actions by December 2011
- Briefing pack about future scenarios of climate change for Goyder region by July 2012

Communication Tips (from community workshops)

Focus on 'stories' rather than advertisements

Find a photo opportunity

Use local identities – peer pressure

Keep large landholders and other important stakeholders up to date with regular mail-outs

Talk about the positive issue, rather than generic 'climate change'

Keep information/briefings short (1 page)

Partner more with local groups, including NRM Groups

Outcome 1.3 Productive partnerships

Climate change will create conditions that we have not experienced before. This means we will need to do things differently. We will need to work together in new ways and form partnerships across jurisdictional boundaries and between different groups of stakeholders who may in the past not have worked together. (SA Draft Climate Change Adaptation Strategy)

Actions	Partners
Participate in climate change vulnerability assessments, planning and the development of a regional agreement as part of the Yorke and Mid North region	CLGRSA, LGA, DPC
Identify opportunities for ongoing partnership projects with CLGRSA	CLGRSA, LGA
Create a community engagement protocol for Goyder Regional Council. This will include, but not be limited to: <ul style="list-style-type: none"> - Guidelines on two-way communication with community groups to ensure timely responses - Use of local newspapers, radio and newsletters to distribute information, including school newsletters (see communication tips) - Key contact person in Council for community liaison 	LGA, CMCs, NRM Groups, schools
Meet regularly with community, NRM and Landcare groups to discuss NRM and climate change threats and opportunities and share information about projects. Develop joint approaches to communications where possible.	NRM Groups, CMCs, other community and industry groups
Provide a mechanism for NRM/climate change action or adaptation measures to be incorporated within Council grants – e.g. energy or water efficiency measures	Other Councils
Create productive relationships with key contacts in State Government agencies and NRM Boards	State Government, NRMBs
Work with regional development and tourism organisations to identify suitable enterprises for Goyder that have positive NRM and climate change benefits – e.g. biosequestration and soil carbon, sustainable food and farming systems, renewable energy and eco-tourism	MNRDB, LGA, SAFF, Ag Bureaus, Industry groups
Identify mechanisms for sharing relevant climate change and NRM data with other councils, NRMBs and regional organisations	CLGRSA, LGA, NRMBs, MNRDB

Council roles

Leadership, facilitator, service provider and information provider

Targets

- Community engagement protocol developed by December 2011
- Regular meetings established with NRM Groups and relevant community groups by October 2011

Outcome 1.4 NRM and climate change decisions and action are informed by good data and information

Actions	Partners
Collect data and report on Council's annual greenhouse gas emissions and water consumption	
Advocate for improved monitoring of the Burra Creek catchment	Burra CMC, SAMDBNRMB, NRM Group
Advocate for and participate in further investigation and monitoring of groundwater quality and quantity across the region	Burra CMC, NRM Groups, NRMBs, DfW
Advocate for automatic weather monitoring stations within Goyder region (Burra, Eudunda, Terowie)	BOM
Advocate for improved monitoring of biodiversity value of roadside/reserve vegetation assets	NRMBs, NRM Groups
Advocate for improved monitoring of biodiversity impacts of climate change	NRMBs, NRM Groups

Council roles

Leadership, advocate

Targets

- Report completed on Council's greenhouse emissions and water consumption by June 2012
- Action taken in relation to Burra Creek catchment and groundwater monitoring by December 2011

Outcome 1.5 Climate change and sustainable resource use considerations are embedded within Council plans, policies and operations

Actions	Partners
Ensure development plan amendments incorporate NRM principles, promote the sustainable use of resources and include policies to minimise greenhouse emissions and respond to climate change impacts	NRMBs, LGA, State Government
Identify climate change considerations that should be included in future development plan amendments to facilitate adaptation to a changing climate	NRMBs, LGA, State Government
Ensure fire prevention planning incorporates appropriate methods for biodiversity protection – e.g. identification of high value assets	NRMBs, State Government, CFS
Extend roadside vegetation management planning and identification system to protect key biodiversity assets	NRMBs, NRM Groups
Ensure that Councils Asset Management Plans and purchasing policies incorporate climate change and NRM considerations for plant, buildings, equipment, and consumables (including WSUD and capacity of infrastructure to cope with extreme flood events)	LGA, NRMBs
Ensure weed management policies identify important biodiversity assets that need protection	NRMBs, NRM Groups
Ensure Council contractors comply with Council requirements in relation to weed control & biodiversity protection, etc	NRMBs, NRM Groups
Ensure Council road maintenance practices take into account native vegetation and WAA issues	LGA, NRMBs, NRM Groups
Adopt best practice irrigation practices and 'sustainable landscapes' principles for all open space and park management at Council	DENR, NRMBs, DfW
Identify water-saving opportunities for road management	DTEI, other Councils
Develop a program to expand tree plantings within towns to provide shade	LGA
Identify an appropriate course of action to implement recommendations of	SAMDB NRMB, NRM Group, DENR, DfW

Actions	Partners
water resource development assessment on Burra Creek catchment (DWLBC, 2008)	

Council roles

Leadership, regulatory, direct service provider, advocate and agent

Targets

- Development plan incorporates NRM principles, promotes sustainable resource use and incorporates policies to minimise greenhouse emissions and adapt to climate change impacts – by June 2013
- Action taken in relation to Burra Creek catchment and groundwater monitoring by December 2011

Outcome 1.6 Council minimises its use of energy and water

Action	Partners
Identify and implement opportunities for energy saving in Council buildings and operations, including public lighting <ul style="list-style-type: none"> - Focus on energy efficiency - 10 year payback options funded 	DTEI
Through the development of Integrated Water Management Plans (IWMPs), identify water saving and re-use opportunities, including: <ul style="list-style-type: none"> - Stormwater recycling in townships - Water efficiency and harvesting opportunities in Council-owned facilities 	NRMBs, DfW
Ensure water use by Council is within the sustainable limits to protect water dependant ecosystems	NRMBs
Identify opportunities to reduce transport emissions from Council's fleet, including: <ul style="list-style-type: none"> - Select fit for purpose vehicles - Identify opportunities to minimise transport associated with meetings, etc - Information/training to improve fuel efficiency though improved driving techniques 	DTEI, other Councils, LGA
Work with neighbouring councils to facilitate a buyers group for solar PV or hot water	Other Councils, LGA
Investigate a community-owned alternative energy project – e.g. wind or solar (see www.hepburnwind.com.au as example)	Other Councils, LGA, community groups
Consider offsetting Council emissions through a local carbon program that has local revegetation benefits	LGA
Create a recognition scheme to recognise excellence in mitigating greenhouse gas emissions and adapting to climate change	Other Councils
Adopt an adaptive management framework where appropriate – See Appendix 1	DPC, CLGRSA, LGA,
Initiate conversations about how the mid North can be a low carbon economy	MNRDB, NRMB, DPC, DENR, DTED, Other Councils, TCNMLR
Promote methane capture and reuse at waste facilities and livestock enterprises	Industry, other Councils

Council role

Direct service provider, advocate, part funder, facilitator and agent

Targets

- Energy and water saving opportunities for Council identified by December 2012

Outcome 1.7 Council, communities and ecosystems are prepared to adapt to climate change impacts

Actions	Partners
Review work practices for Council's outdoor staff to ensure they are appropriate for a hotter, drier climate	LGA, other Councils
Ensure all Managers incorporate climate change adaptation into forward planning	NRMBs, LGA
Provide incentives for community- owned or managed recreation facilities to incorporate solar passive changes for reduced heat and improved shade	CMCs
Facilitate discussions with recreation and community groups about adapting sport and recreation activities for increased heat	NRMBs, NRM Group
Use communication and networking to share examples of industries, farmers, community groups, etc, that have positive stories to share about adaptation	NRMBs, DPC, SAFF, Ag Bureaus, NRM Groups, media
Encourage water-wise gardens	DENR, NRMBs
Develop 'town greening' plans – through appropriate tree and plant selection and networks of open spaces to provide cool spaces	DENR, CMCs
Identify partnerships for trialing sustainable food and farming systems in the Goyder RC	MNRDB
Identify opportunities to support local or regional food production	MNRDB
Work with NRMBs and DENR to develop initiatives that ensure local ecosystems, resources and species can adapt to climate change impacts (where possible)	NRMBs, DENR
Support regional fire management plans	CFS, Other councils

Council roles

Leadership, direct service provider, information provider, agent, part-funder and facilitator

Target

- Ensure all Managers incorporate climate change in forward planning by July 2012

Outcome 1.8 Reduced waste to landfill

Actions	Partners
Ensure landfill sites, transfer stations, and recycling waste control systems including drum muster, waste oil and waste transport are installed and operated in accordance with current legislation	Zero Waste
Share resources and work towards a regional waste management strategy	Other Councils, LGA, Zero Waste
Reduce landfill sites in the area	
Implement a sustainable waste recycling system	Zero Waste, LGA

Council roles

Leadership, direct service provider, agent, part funder

Appendix 1 – About this strategic plan

Objective 1 of this strategic plan has been prepared for the Regional Council of Goyder with the financial assistance of the Strengthening Basin Communities program¹ and the South Australian Murray Darling Basin Natural Resources Management Board. The objective relating to climate change and NRM has been designed to be integrated into the Regional Council of Goyder Strategic Management Plan, and therefore a suggested overall structure for the strategic plan is provided.

The other four objectives of the strategic plan have not been completed at the time this document was prepared.

Outcome 1.8 'Reduced waste to landfill' was adapted from the existing Council Strategic Plan. There was no consultation on this outcome area and no targets have been developed.

How the plan was prepared

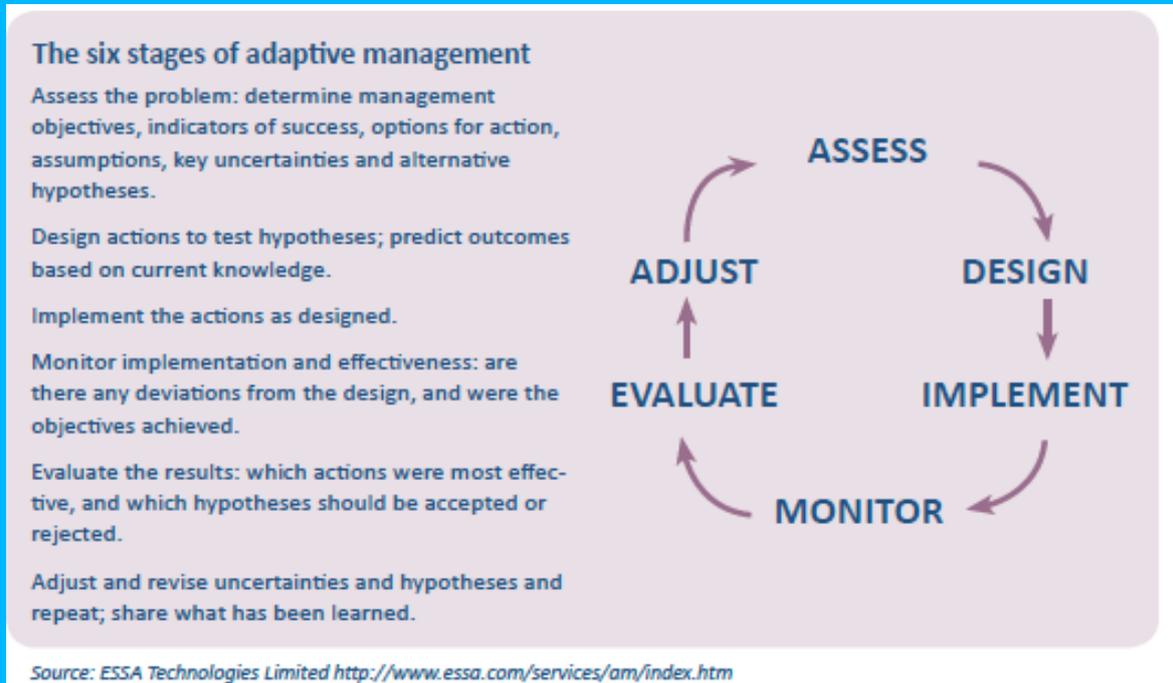
This document was prepared by Natasha Davis from Sustainable Focus. Informal consultation with the Rangelands NRM Group as well as Goyder Region Community Management Committees was undertaken as part of the development of the draft.

After a draft document was circulated community members and key stakeholders were invited to attend a community workshop. There were two workshops – in Eudunda and Burra – held in February 2011. The document was also available on Council's website and feedback forms were available. The planning process was also publicised in the local media through two articles.

¹ The Federal Government has provided funding via the Planning Component of the Strengthening Basin Communities (SBC) program for local government bodies in the Murray-Darling Basin to systematically assess the risks and implications associated with climate change, with a particular focus on water availability.

Appendix 2 - Adaptive Management Framework

Adaptive management centres on three key principles: developing and utilising assumptions, being adaptive and learning (ICLEI, 2008).



Sourced from Government of South Australia (2010)

Simple planning tool for adaptive management

Step	Questions
Assess	What do we want to achieve? Is there evidence or research about likely success and potential risks or challenges? How will we measure success? What do we need to monitor?
Design	How are we going to achieve our objectives? What resources are needed and where will I get them from? Who needs to be involved? Who can help? Do we have an implementation plan? What risks do we need to plan for?
Implement	Is implementation proceeding according to my plan? If not why not? Have conditions changed? What do I need to change?
Monitor & Evaluate	Did we achieve our objectives? What difference did we make? What worked and why? What didn't work and why? What did we learn?
Adjust	How can we apply what we learned? How can we share what we learned?

Appendix 3 – Relevant Policy and Legislation

South Australia Legislation

Climate Change and Greenhouse Emissions Reduction Act 2007

The legislation sets out three targets:

- to reduce by 31 December 2050 greenhouse gas emissions within the State by at least 60%, to an amount that is equal to or less than 40% of 1990 levels as part of a national and international response to climate change
- to increase the proportion of renewable electricity generated so it comprises at least 20 per cent of electricity generated in the State by 31 December 2014
- to increase the proportion of renewable electricity consumed so that it comprises at least 20 per cent of electricity consumed in the State by 31 December 2014.

The legislation also commits the Government to develop Climate Change Sector Agreements, including with Local Government.

See www.climatechange.se.gov.au for further information

Policies and Plans

South Australia Strategic Plan.

Current Targets (under review):

- achieving the Kyoto target by limiting the State's greenhouse gas emissions to 108 per cent of 1990 levels during 2008-2012, as a first step towards reducing emissions by 60 per cent by 2050
- supporting the development of renewable energy so that it comprises 20 per cent of the State's electricity production and consumption by 2014
- improving the energy efficiency of government buildings by 25 per cent from 2000-01 levels by 2014
- increasing the energy efficiency of dwellings by 10 per cent by 2014
- managing South Australia's water resources within sustainable limits by 2018
- reducing South Australia's ecological footprint by 30 per cent by 2050
- reducing waste to landfill by 25 per cent by 2014

Government of South Australia (2007) *Tackling Climate Change - South Australia's Greenhouse Strategy Government Action Plan to 2012*

Government of South Australia (2010) *Prospering in a Changing Climate - a Draft Climate Change Adaptation Framework for South Australia* (December 2010)

North Yorke NRM Board (2009). *Natural Resources Management Plan*

South Australian Murray-Darling Basin NRM Board (2009). *Natural Resources Management Plan*

Government of South Australia (2006). *State Natural Resources Management Plan* (under review). Prepared by Department of Water, Land and Biodiversity Conservation

Appendix 4 – Adoption of new behaviours or technologies

Changing behaviours

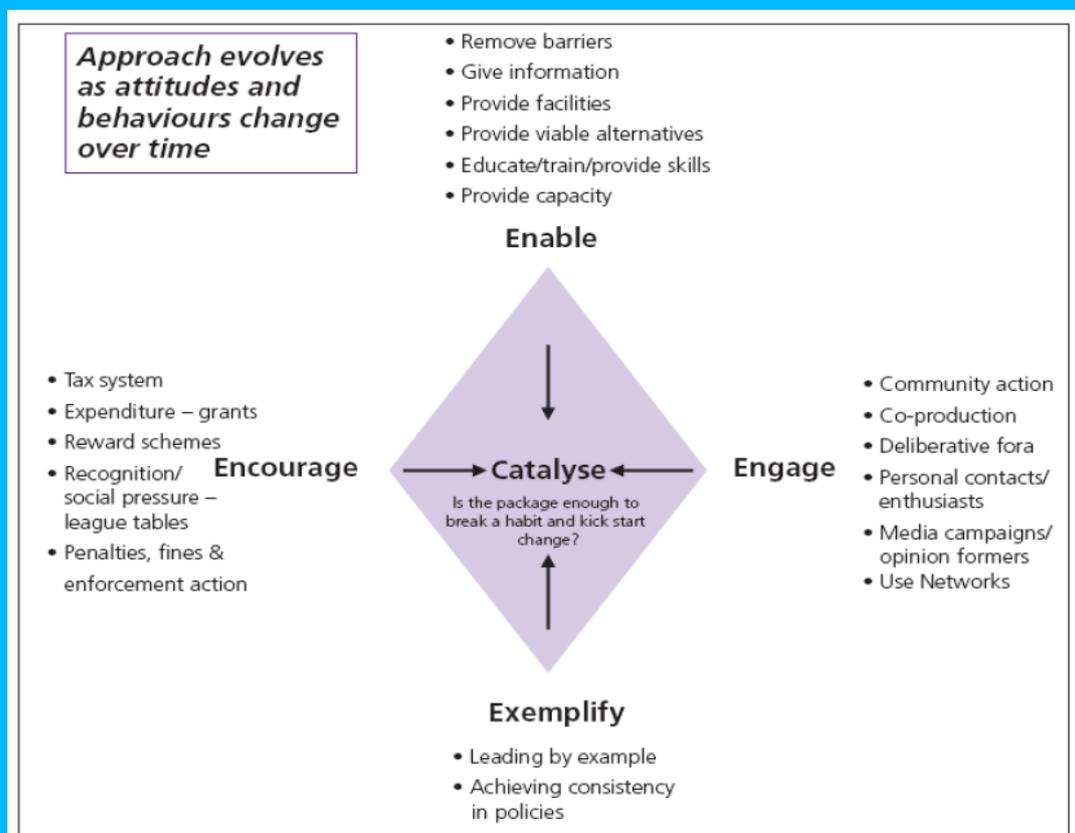
Any approach aimed at influencing behaviour should ideally incorporate many interventions, focusing both on the internal and external causes of behavior as well as the common motivators that influence people towards more pro-environmental behaviour, namely when:

- A behaviour results in the 'feel good factor' or provides a sense of altruism and some social currency
- New behaviours fit within current lifestyle and/ or are expected by society
- Individual benefits accrue from taking up the behaviour (e.g. improved health, lower financial outlay, alleviates guilt)
- Behaviours are easy to do

An effective approach is 'participatory-based', which facilitates collaborative learning rather than top-down provision of information. Individual capacity and willingness to change is enhanced through learning in social or community settings.

The UK Government has adopted the following model for promoting sustainable production and consumption to guide its behaviour change programs, based on four principles:

- Enable – make it easier
- Encourage – give people the right signals
- Engage – get people involved
- Exemplify – government takes the lead.



Source: Sustainable Consumption Roundtable, 2006

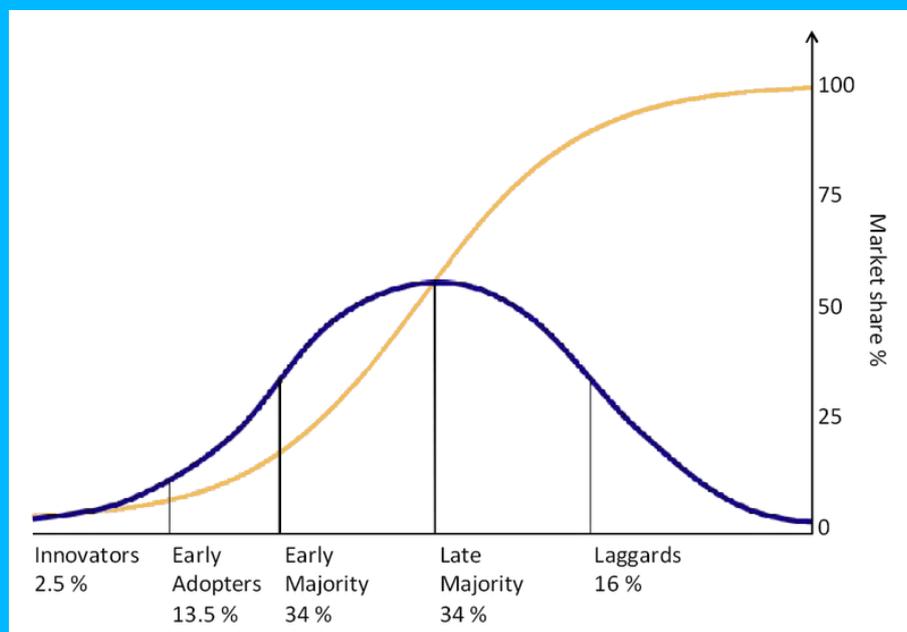
Who leads change?

In any change process or innovation, there are different rates at which people adopt the new 'idea'. According to Rogers (1962), some people are the innovators who lead change; another group are 'early adopters'; others are slightly more cautious: some are very skeptical and only try something new when the majority are using it; and a few are very traditional and reluctant to change. See the table below.

Adopter Category	Definition
Innovators	Innovators are the first individuals to adopt an innovation. Innovators are willing to take risks, youngest in age, have the highest social class , have great financial lucidity, very social and have closest contact to scientific sources and interaction with other innovators. Risk tolerance has them adopting technologies which may ultimately fail. Financial resources help absorb these failures.
Early adopters	This is the second fastest category of individuals who adopt an innovation. These individuals have the highest degree of opinion leadership among the other adopter categories. Early adopters are typically younger in age, have a higher social status, have more financial lucidity, advanced education, and are more socially forward than late adopters. More discrete in adoption choices than innovators. Realize judicious choice of adoption will help them maintain central communication position
Early Majority	Individuals in this category adopt an innovation after a varying degree of time. This time of adoption is significantly longer than the innovators and early adopters. Early Majority tend to be slower in the adoption process, have above average social status, contact with early adopters, and seldom hold positions of opinion leadership in a system (
Late Majority	Individuals in this category will adopt an innovation after the average member of the society. These individuals approach an innovation with a high degree of skepticism and after the majority of society has adopted the innovation. Late Majority are typically skeptical about an innovation, have below average social status, very little financial lucidity, in contact with others in late majority and early majority, very little opinion leadership .
Laggards	Individuals in this category are the last to adopt an innovation. Unlike some of the previous categories, individuals in this category show little to no opinion leadership. These individuals typically have an aversion to change-agents and tend to be advanced in age. Laggards typically tend to be focused on "traditions", likely to have lowest social status, lowest financial fluidity, be oldest of all other adopters, in contact with only family and close friends, very little to no opinion leadership .

Source: http://en.wikipedia.org/wiki/Diffusion_of_innovations

The following graph demonstrates the rate at which these different categories of people tend to adopt any innovation. The opportunity for organisations or individuals working to promote change or innovation is to work with the 'early adopters' who tend to be opinion leaders and more readily able to influence others in the community. It is important to note that first, technologies are not static. There is continual innovation in order to attract new adopters all along the S-curve. The S-curve does not just 'happen'. Instead, the s-curve can be seen as being made up of a series of 'bell curves' of different sections of a population adopting different versions of a generic innovation.



Source: self-made based on Rogers, E. (1962) Diffusion of innovations. Free Press, London, NY, USA. (Wikipedia) http://en.wikipedia.org/wiki/Diffusion_of_innovations

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