

# Climate Change Community Engagement Strategy

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November 2018



MORNINGTON  
PENINSULA  
*Shire*

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## 1. Executive Summary

The Climate Change Community Engagement Strategy outlines the Council's vision to assist our community to become resilient to the impacts of climate change, aware of the associated risks and actively involved and supported to reduce their greenhouse gas emissions and prepare for the future.

The Strategy includes six main areas which need to be addressed to achieve this vision.

1. **Empowering our community** through providing education and advice to help our community better prepare for climate change and reduce greenhouse gas emissions and through supporting community led climate change initiatives.
2. **Generation of local renewable energy and improving energy efficiency** to enable renewable energy projects for residents and community assets and improve energy efficiency through improving building efficiency and access to energy efficient products.
3. **Improving water efficiency** within households, businesses and agriculture.
4. **Supporting low emissions transport** through supporting community access sustainable transport options including public transport, cycling and walking and electric vehicles.
5. **Reducing waste to landfill** with a key focus on minimising food waste.
6. **Protecting natural assets and increasing carbon storage** through raising awareness of climate change impacts on natural and agricultural assets and supporting adaptive agricultural management systems and carbon storage initiatives.

This Strategy has been developed with extensive community consultation, conducted in two stages. The initial consultation (February – April 2017), provided valuable input from the community on their understanding of climate change, current actions to reduce greenhouse gas emissions and prepare for climate change and barriers to further actions. This community feedback was incorporated into the draft Strategy. The second stage of community consultation (June – August 2018), provided feedback on the draft which was used to inform the final Strategy.

In addition to this community consultation, a Community Emissions Profile was prepared identifying the total community greenhouse gases emissions and sources. A science-based greenhouse gas emission target was developed to guide future emissions reductions strategies, based on the greenhouse gas emissions target established as part of the Paris Agreement.

The Shire commits to a minimum community greenhouse gas emission reductions target of 2.9% annually. The Shire also commits to working towards a target of a zero greenhouse gas emissions for the Peninsula. To achieve this the Shire will work in collaboration with other organisations such as the South-East Councils Climate Change Alliance.

As future Community Greenhouse Gas Profiles are prepared for the Shire and additional information becomes available, the greenhouse gas emission reduction target of 2.9% will be reviewed to ensure the target keeps within the 2° increase set by the Paris Agreement.

The Strategy will be reviewed in 2021, in line with the review of the Shire's Council Plan *Our Peninsula 2021: Council Plan 2017 – 2021*.



## **2. Introduction**

### **2.1 Background**

In the last two decades, there has been a noticeable increase in the intensity and frequency of extreme weather events both locally and globally. Since February 2008, Victoria has experienced the most devastating bushfires in our history, severe heatwaves, wild storms, floods and drought. These events have impacts on our infrastructure, economics, health system and emergency services as well as individuals and groups within our community.

These extreme weather events associated with climate change are set to continue and increase over the long term (in line with current climate change projections). It is imperative that our communities are prepared for these changes and actively working to minimise their impact on climate change.

Since 2001 the Mornington Peninsula Shire has taken a lead role in combatting climate change, both in terms of planning for the impacts of climate change and reducing greenhouse gas emissions. A key to reducing Council greenhouse gas emissions is the Shire's Carbon Neutral Policy, that will see the Shire reach carbon neutrality in Shire operations by 2021. Community engagement is critical to the approach and has long been embedded into the Shire's activities. The development of a Climate Change Community Engagement Strategy will assist our community better prepare for the impacts of climate change and reduce greenhouse gas emissions.

## **3. Framework**

The framework identifies the vision, timelines, objectives and principles that will guide the implementation of the Strategy.

### **3.1 Vision**

That the Mornington Peninsula Shire community is resilient to the impacts of climate change, aware of the associated risks and actively involved and supported to reduce their greenhouse gas emissions and prepare for the future.

### **3.2 Timeline**

The Strategy will be in place from 2018 till 2021. In 2021, the Strategy will be reviewed in line with the review of the Shire's Council Plan *Our Peninsula 2021: Council Plan 2017 – 2021*.

### **3.3 Objectives**

The objectives of the Strategy are to:

- Raise community awareness of the impacts of climate change and help our community better prepare for the present and future impacts of climate change.
- Support and assist the community to reduce their greenhouse gas emissions.

### 3.4 Delivery Principles

The Strategy will apply the following delivery principles:

- Be responsive to new opportunities and innovations in climate change mitigation and adaptation as they arise. These opportunities will be assessed against existing Shire priorities and their effectiveness against the criteria used in this Strategy.
- Follow the International Association of Public Participation (IAP2) Spectrum and the community engagement principles stated in the Mornington Peninsula Shire's Community Engagement Draft Policy.
- Programs will be designed in conjunction with, and according to, the needs, values and capacities of community stakeholder groups.
- Community engagement programs will be designed using the best scientific and technical information available but will be delivered in 'plain language'.
- Community engagement programs will reach all stakeholders, with a focus on reaching those most vulnerable to the impacts of climate change.
- Provide tools, advice and education to empower other Shire Departments to incorporate climate change into their existing out-reach programs where appropriate.
- Partner with external agencies and stakeholders to deliver collaborative projects, take advantage of funding opportunities and advocate for improved climate change community engagement.
- Work towards climate change community engagement being considered as part of any relevant Shire Policy or Strategy document.



Speed Dating a Sustainability Expert June 2017: Photo credit: Debbie Coffey

## **4. Strategy development**

### **4.1 Overview**

The Strategy has been developed with extensive research, community consultation and internal collaboration. The following sections detail the factors taken into consideration in developing the Strategy. In summary, these considerations are:

- Local demographics;
- Community feedback received from the Mornington Peninsula Shire residents and holiday makers;
- Current scientific understanding of climate change and future predictions;
- Community greenhouse gas emissions profile and target; and
- Current climate change legislation, commitments and policy at a Global, National, State and Local Government level.

## **5. Understanding our Community**

### **Our community:**

- Population of 157,041 with 48.4% male and 51.6% female. The Mornington Peninsula Shire population is forecast to grow to 178,146 by 2036.
- Between 2011 and 2036, the age structure forecasts for Mornington Peninsula Shire indicate an 13.89% increase in population under working age, a 62.05% increase in population of retirement age and a 24.06% increase in population of working age.
- 38,000 residents have some form of disability, with 6,921 requiring assistance with daily activities. The majority of these people are aged over 65 years.

### **Our Place**

- Approximately 720 square kilometres of land. The coastline extends over 190 kilometres and represents approximately 10% of Victoria's total coastline.
- Approximately 70% of the Shire land is retained as rural land within the Green Wedge planning zone; 30% is taken up by towns and villages. Approximately 10.5% of the Shire is public open space.
- Recognised for outstanding biological diversity; significant, rare native plants and vegetation; wetlands; sites of geomorphological significance; remnant indigenous vegetation; highly scenic landscape values; and sites of historic importance.
- 44 towns and villages are spread across the peninsula. The majority of the residential population live along the coastline.
- Many beach holiday houses and camping grounds are based along the Port Phillip coastline, with the population swelling by up to 30% in the summer months.

### **Our Connectivity**

- 1.8 cars are parked at the average occupied dwelling.
- 26.7% of our community experience transport limitations, only 3% use public transport to get to work and 3% use cycling as a mode of transport.
- 30.9% use walking as a mode of transport.

### **Our Prosperity**

- We have a growing and diverse economy worth \$6.3 billion in gross regional product comprising retail, manufacturing, construction and business services.
- 13,825 businesses are in the Shire, employing approximately 42,000 people, with 91% employing fewer than five people.
- The Peninsula is a premier holiday and retirement destination, tourism is a significant contributor to the local economy.
- The region also has a distinguished agricultural history, including beef, chicken meat and eggs, viticulture (grapes) and horticulture (fruit, vegetables and flowers).

### **Our Wellbeing**

- There are 83,623 dwellings with an average household size of 2.42 persons.
- Median weekly household income in the Shire is \$842.

(Mornington Peninsula Shire 2017 - 1., Australian Bureau of Statistics 2016)



Rural view of Westernport. Photo credit: Mornington Peninsula Tourism



**Table1: Mornington Peninsula Shire Age Structure**

<b>Age groups (years)</b>	<b>Numbers</b>	<b>Percentage</b>
Babies and pre-schoolers (0 – 4)	8, 007	5.2%
Primary schoolers (5 – 11)	13,399	8.6%
Secondary schoolers (12 – 17)	10,948	7.1%
Tertiary education and independence (18 – 24)	19,843	7%
Young workforce (25 – 34)	13, 493	8.7%
Parents and homebuilders (35 – 49)	28, 826	18.6%
Older workers and pre-retirees (50 – 59)	20, 807	13.4%
Empty nesters and retirees (60 – 69)	21, 861	14.1%
Seniors (70 – 84)	21, 751	14%
Elderly aged (85 and over)	5, 059	3.3%
<b>Total</b>	<b>154, 994</b>	<b>100%</b>

Australian Bureau of Statistics 2016

## 6. Community engagement

### 6.1 What is community engagement?

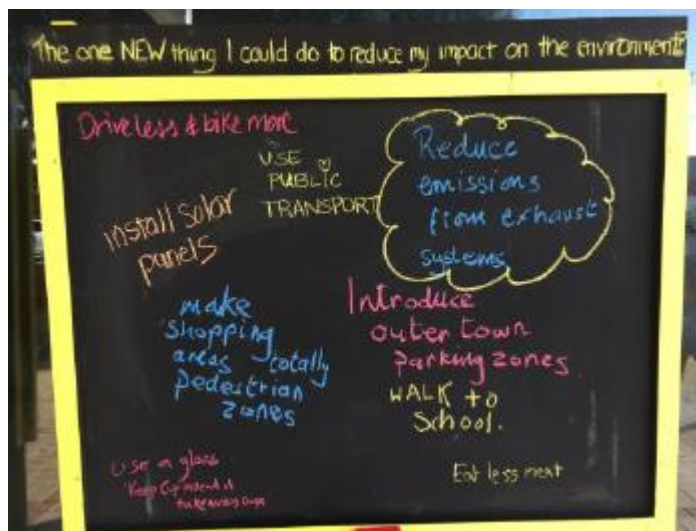
Community engagement is a planned process of working with stakeholders and the community to develop relationships, build understanding and inform decision-making (Mornington Peninsula Shire 2012).

### 6.2 Why is climate change community engagement important?

Effective community engagement can strengthen climate change programs and policies by:

- Contributing to informed consideration of climate change trends, impacts and implications;
- Strengthening public support for Councils to act on climate change;
- Broadening and deepening input into council policies and plans;
- Assisting in development of climate change mitigation and adaption strategies;
- Informing locally owned, tailored and sustainable decisions, actions structures and networks; and
- Encouraging social innovation and skill sharing, informed by local knowledge.

(Barlow, R 2010)



Clean and Green consultation March 2017. Photo credit: Activate Consulting

### 6.3 Community feedback

The input of community opinions and ideas was an important part of the development of this Strategy. To seek community input, a community consultation program titled *Have your say on a Clean and Green Peninsula* was conducted between February and April 2017. The consultation aimed to understand how the community is currently preparing climate change

and their efforts to reduce their carbon emissions as well as gaining insights into the barriers to further action.

The consultation involved two stages:

**Stage 1** – Consultation at a pop-up trailer in four Peninsula townships: Mornington, Sorrento, Hastings and Rosebud. This involved personal interaction to gain feedback and surveys.

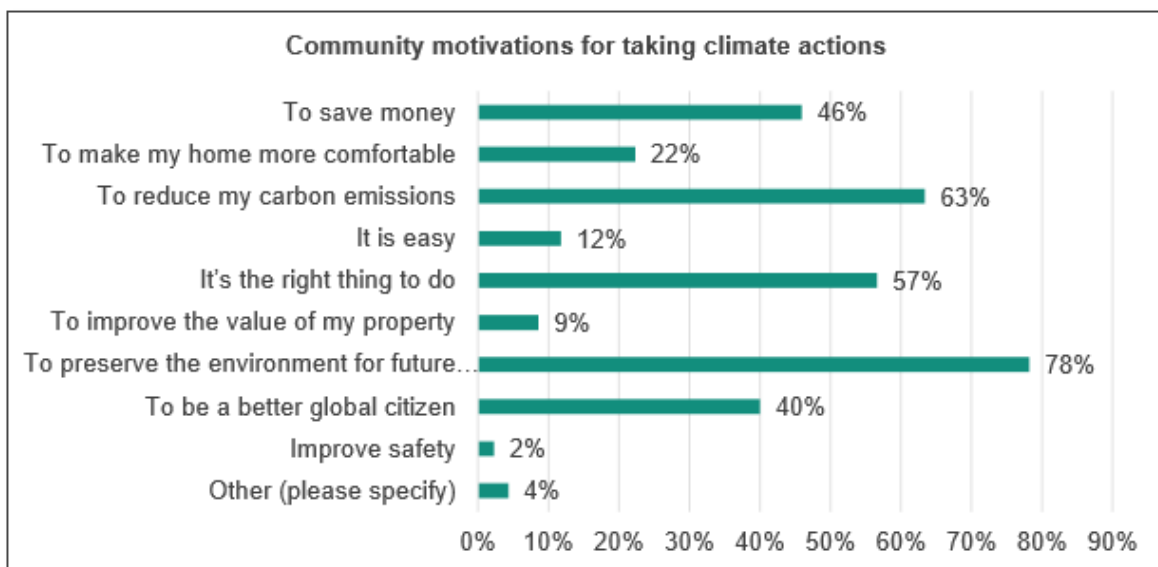
**Stage 2** – Three community workshop to delve deeper into community views and identify potential actions.

Over 550 people participated in the consultation. This included 469 survey respondents, approximately 65 participants in the pop-up activities and 29 workshop participants.

#### What we heard:

- Fewer people were motivated to act because of the direct personal benefit to be gained, for example to save money, improve the value of their property, improve safety or make their home more comfortable. The highest number of respondents (78%) were motivated to preserve the environment for future generations.

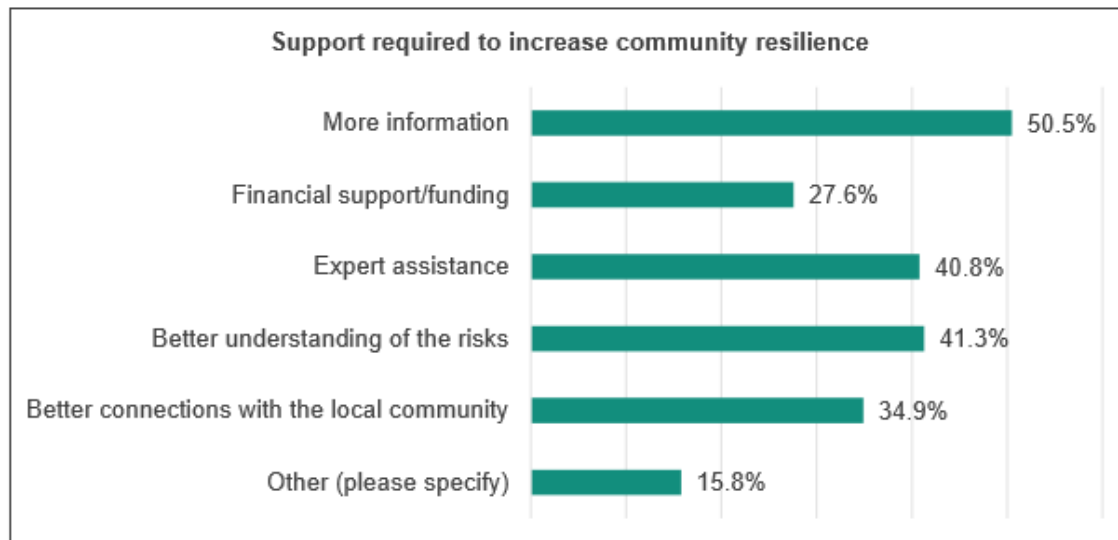
**Figure 1: Community motivations for taking climate actions**



- When survey respondents were asked how the Shire could assist them to reduce their carbon emissions, of the 530 suggestions made the four most common themes related to:
  1. education and awareness;
  2. improved and affordable waste / recycling options and processes;
  3. sustainable and accessible transport options; and
  4. financial subsidies and incentives.

1. When asked, what support would help people feel more prepared to cope with climate change impacts, of the 392 respondents, half stated they 'needed more information' (50.5%), followed by 'a better understanding of the risks' (41%) and 'expert assistance' (40%).

**Figure 2: Support required to increase community resilience**



#### **How will this information be used?**

This feedback indicates there is strong community support for additional education programs and assistance, fostering and supporting stronger community links and providing incentives or rebates to encourage the uptake of climate change programs. These suggestions have been incorporated as recommendations in the Strategy's Action Plan.

## 7. Current climate change projections and impacts

Since Industrialisation around 200 years ago, the increase in atmospheric greenhouse gases from burning fossil fuels and land use changes has significantly altered the earth's atmosphere. While greenhouses gases are critical to maintain the earth's atmosphere, the concentrations of atmospheric carbon dioxide (CO<sub>2</sub>) are now over 40% higher than pre-Industrialisation. Consequently, over the last 100 years global surface air temperatures have increased by almost 1 degree Celsius.

### What future climate can we expect?

Climate change projections give us an indication of the future climate and probable impacts. The following projections from 2015 were generated by CSIRO and based on global climate models and national projections released by CSIRO and the Bureau of Meteorology. To cover a range of possibilities, climate scientists indicate projections based on emissions scenarios. High emissions scenarios assume high greenhouse gas emissions while lower emissions scenario assume a reduced rate of greenhouse gas emissions. For the last 10 years, we have tracked along a high emissions scenario.

**By 2050, under a high emissions scenario, the climate of the Greater Melbourne Region will be similar to Adelaide today.**

**Figure 3: Projected climatic change by 2050**



Image supplied by the State of Victoria



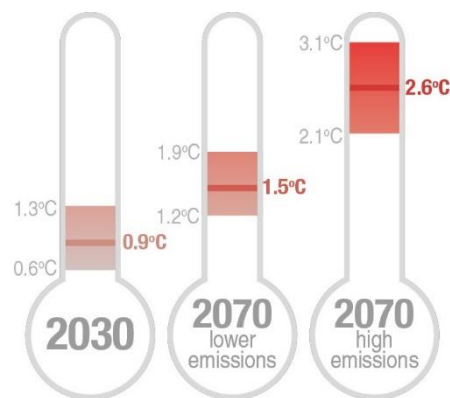
## Temperature projections

*By 2030, annual average warming is projected to be around .6 degrees – 1.3 degrees Celsius above the climate of 1986 – 2005.*

*By 2070, the projected range of warming is between 1.2 – 3.1 degrees Celsius.*

*Extreme temperatures are likely to increase with more hot days and heat waves lasting longer.*

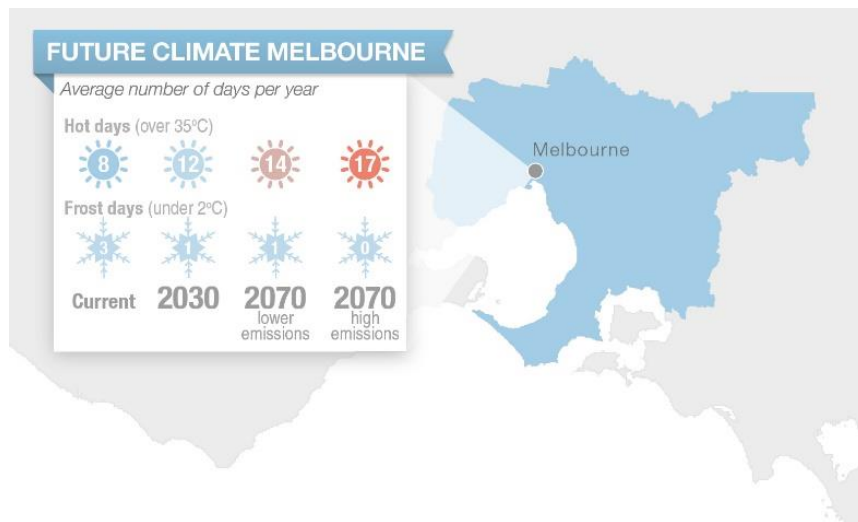
**Figure 4: Projected annual average temperature changes for Greater Melbourne to 2070**



*Projected annual average temperature changes for the Greater Melbourne region*

Image supplied by the State of Victoria

**Figure 5: Average number of days over 35°C and frost-free days by 2070**



Images supplied by the State of Victoria.

### **What could this mean for you?**

- All residents will be under increased heat stress.
- Vulnerable residents, such as the elderly, homeless, very young or those in poorly insulated homes, will be placed under the greatest heat stress resulting in dehydration, heat related illnesses or death.
- Pets, wildlife and farm stock will be under increased heat stress.
- Increased use of air conditioners will place a burden on electricity supplies resulting in increased 'black-outs' and rolling 'brown-outs'.
- Increased energy costs to cool buildings.

(Kinrade, P and Preston, B 2008)

## Rainfall

*Less rainfall will fall in winter and spring.*

*More rainfall will fall in summer.*

*Frequency and intensity of extreme rainfall events are expected to increase.*

**Figure 6: Projected seasonal rainfall (%) change for Greater Melbourne**

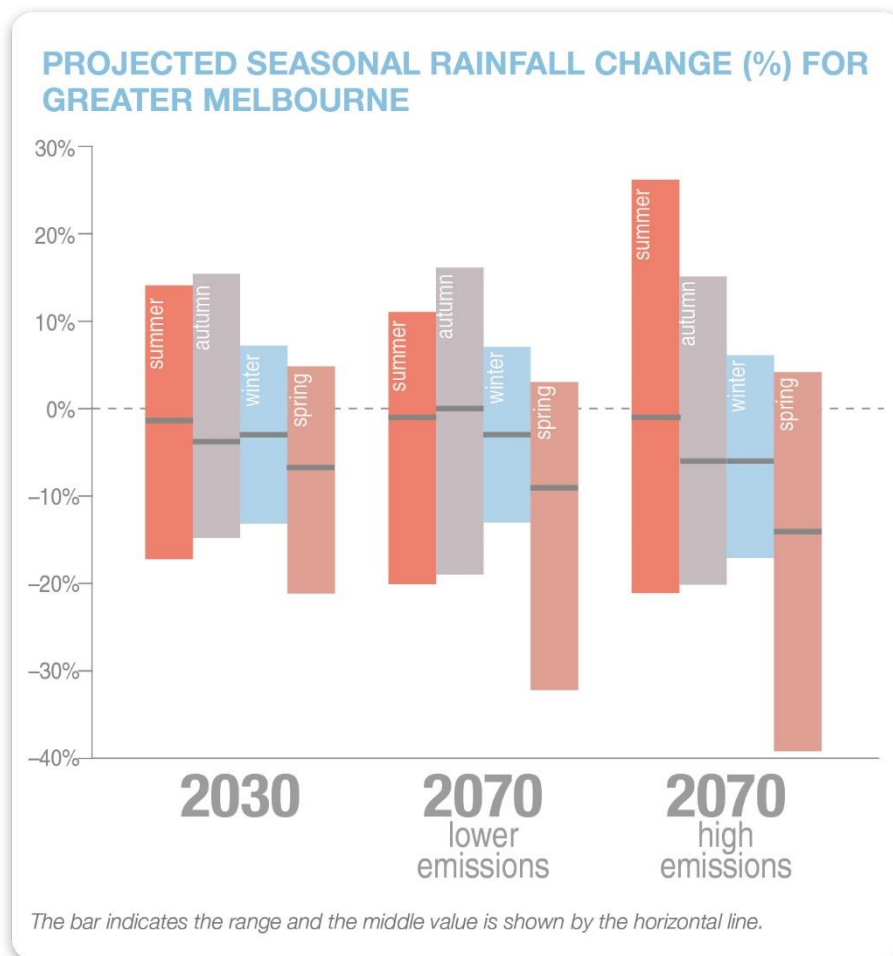


Image supplied by the State of Victoria

*Droughts will be longer and more severe.*

### What could this mean to you?

- Decreased water use due to restrictions and increased water costs to maintain private gardens, public gardens and recreation grounds.
- Reduced quality of sporting fields and public gardens.
- Reduced water flows and quality and increased water temperatures in creeks and waterways impacting on native plants and animals.

- Loss of environmental water for native plants and animals.
- Increased water costs and loss of income for agricultural and other water - dependant businesses.
- Increased costs to maintain Shire infrastructure such as roads.

*When it does rain, storm events will be more severe.*

**What could this mean to you?**

- Disruptions to transport services, electricity and telecommunications.
- Potential to affect roads, drainage, sewerage, water and rail infrastructure.
- Damage to public and private buildings.
- Loss of crops and damage to industry.
- Increased emergency services demand and cost.
- Health impacts and social disruption.

(Kinrade, P and Preston, B 2008)

**Marine and Coast projections**

*Sea level will continue to rise.*

*The height of extreme sea level events will also increase.*

*By 2030, projected sea level rise on the Greater Melbourne areas is .08 to .17 m above 1986 – 2005 levels.*

The Planning for Sea Level Rise Guidelines produced by Melbourne Water recommends assuming a .2 m sea level rise for any new developments planned to 2040 and a .8 m sea level rise for any development planned to 2100.

(Melbourne Water 2017)

### **What could this mean to you?**

The high tide mark will be higher, particularly during storm events or king tides, potentially resulting in:

- Inundation of roads, walking / cycling paths, foreshore reserves and boating facilities.
- Inundation of native vegetation and increased erosion.
- Inland flooding as coastal waters are pushed back up along stormwater drains.
- Flooding of properties in low lying coastal areas.
- Salt water travelling further up rivers and streams impacting on native plants and animals.

*Oceans will get warmer and more acidic.*

*Sea surface temperatures are projected to increase between 1.3 degrees to 2.5 degrees Celsius by 2070 (under a high emissions scenario).*

At least one quarter of the carbon dioxide released does not stay in the atmosphere but is absorbed by the ocean. When this happens, the pH is lowered resulting in the seawater becoming more acidic. In the last 200 years, ocean water has become 30% more acidic. In addition, this chemical change binds up carbonate ions, which are required by shellfish and corals to build shells and skeletons.

### **What could this mean for you?**

- Marine species may change their distribution and abundance.
- Some species will not survive this rapid change, resulting in species loss.
- Aquaculture and other fisheries are likely to be impacted, particularly shellfish.
- Tourism and other sea related Industries are likely to be impacted.



## 8. Community greenhouse gas emissions

To identify the greenhouse gases emitted by the Mornington Peninsula community, a Community Emissions Profile was developed as part of this project (Ironbark Sustainability 1 2017). This profile gives us a 'snapshot' of the amount of greenhouse gas emissions and where those emissions are occurring.

This profile is not a comprehensive inventory of all community greenhouse gas emissions in the Shire. In 2018, this profile will be updated to include emissions from a wider range of sources as more information becomes available.

The greenhouse gas emissions included in developing this profile fall into several categories called sectors. The aspects of these sectors covered under this profile are listed in Table 3.

**Table 3: Greenhouse gas emissions included in the Mornington Peninsula Community Greenhouse Gas Emission Profile 2017**

Sector	Description
Stationary Energy	These emissions come from the combustion of fuel for electricity generation and fuels consumed in residential, commercial and institutional buildings and facilities, and manufacturing industries and construction. Stationary energy sources are one of the largest contributors to a city's greenhouse gas emissions.
Transportation	Greenhouse gas emissions in this sector are produced by the combustion of fuel. For this profile, transportation covers journeys by road within the Shire boundary. No emissions have been included under transport for rail, aviation, water transport or other off -road transportation as this data is currently not readily available.
Waste (Both solid waste and waste water)	This includes greenhouse gas emissions from waste disposal and treatment including decomposition or incineration.

In addition to the emissions listed above, emissions that will be included in the profile as more information becomes available are:

1. Transboundary transportation (transport emissions from sources that cross over the Shire boundary;
2. Energy transmission and distribution losses;
3. Agriculture, Forestry and Land Use; and
4. Industrial Processes and Product Use.

When these additional emissions are included, the total emissions calculated for the Shire is likely to increase.

## Emissions breakdown

The Mornington Peninsula Shire's total community emissions are calculated to be 2,092 kilotonnes of carbon dioxide equivalent (CO<sub>2</sub>-e) g.

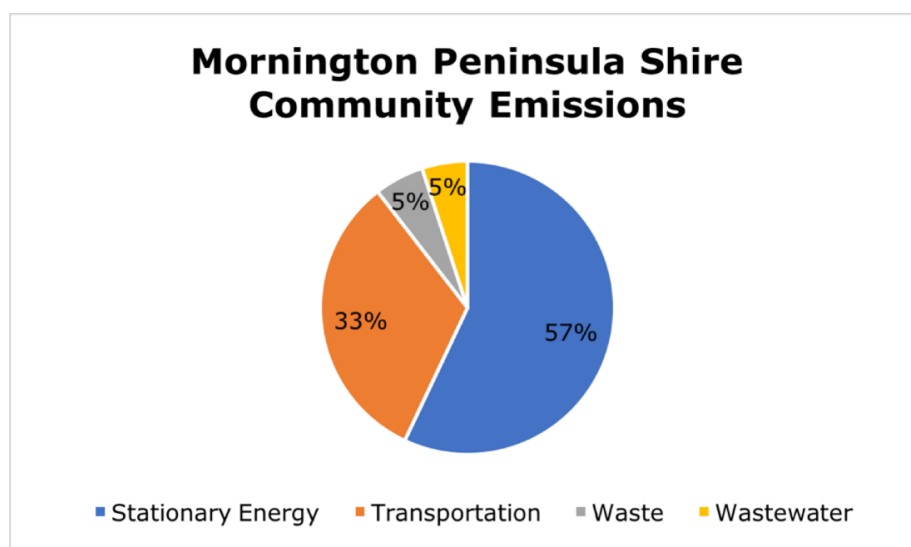
**Table 4: Total Emissions Summary by Sector**

Category	Emissions (t CO <sub>2</sub> e)	Percentage (%)
Stationary Energy	1,192,834	57%
Transportation	680,554	33%
Waste	114,065	5%
Wastewater	104,640	5%
<b>Total</b>	<b>2,092,094</b>	<b>100%</b>

The largest source of greenhouse gas emissions is stationary energy, which accounts for energy use in residential buildings, commercial and institutional facilities; and manufacturing and construction industries. On-road transportation is the next highest emissions category, with 33% or 681 kt CO<sub>2</sub>-e.

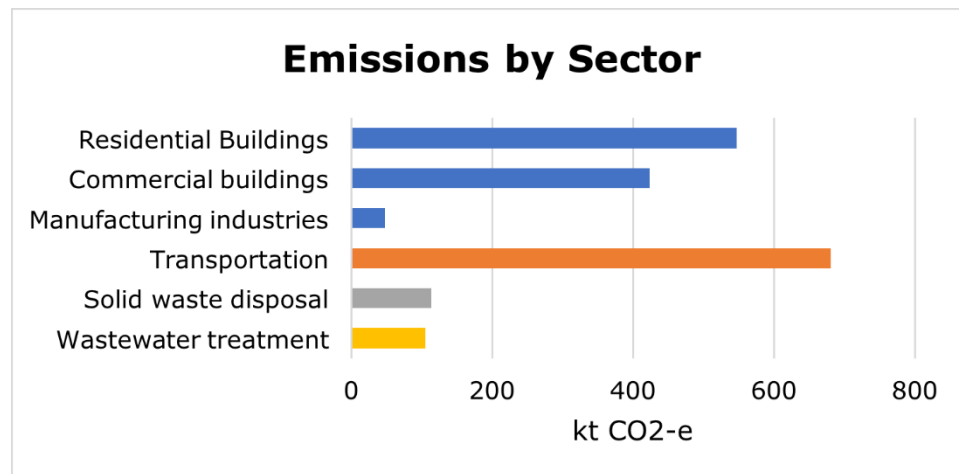
Greenhouse gas emissions from waste sources produced 10% of the total emissions at 229 kt CO<sub>2</sub>-e, with half coming from the biological treatment of wastewater (5%) including sewerage, and half from the disposal of solid waste.

**Figure 7: Mornington Peninsula Community Emissions by Source.**



Greenhouse gas emissions resulting from stationary energy can be broken down further into sub-categories: residential, commercial and manufacturing. Figure 8 breaks down the community emissions profile sources further by representing stationary energy according to residential buildings (702 kt CO<sub>2</sub>-e), commercial and institutional buildings (443 kt CO<sub>2</sub>-e) and manufacturing industries and construction (48 kt CO<sub>2</sub>-e).

**Figure 8: Greenhouse gas emissions by sector**



#### **How will this information be used?**

This information indicates the most effective way to assist the community to reduce emissions within our Shire is to develop programs targeting stationary energy use in households and businesses. Advocacy to promote improved public transport and more fuel-efficient haulage will also play an important role in reducing community greenhouse gas emissions. These findings are reflected in the Action Plan recommendations.

## 9. Greenhouse Gas Emissions Reduction Targets

At the United Nations Framework Convention for Climate Change (UNFCCC) Paris Conference in 2015 the Australian Government signed an international agreement between 195 countries to keep temperature rise “well below 2°C” and to drive efforts to keep warming below 1.5°C higher than pre-Industrial levels (known as the Paris Agreement). To reach this goal, Intergovernmental Panel on Climate Change (IPCC) modelling suggests that industrialised countries need to reduce their greenhouse gas emissions by approximately 85% by 2050.

Based on this, the world’s ‘carbon budget’, or the total volume of greenhouse gases that can be emitted to confidently keep temperature rise below 2°C, is 1,701 giga-tonnes CO<sup>2</sup>-e from 2000 – 2050. Each country, based on their population and capacity, has a responsibility to reduce greenhouse gas emissions to reach this goal. From a National perspective, the Australian Climate Change Authority recommends a national carbon budget of 10.1 giga-tonnes CO<sup>2</sup>-e for the period 2013 – 2050. As of 2016/17, 8.5 giga-tonnes CO<sup>2</sup>-e of this budget remains.

As part of this project, research was undertaken to determine the level of greenhouse gas emission reductions required in the Mornington Peninsula to keep within the 2°C increase limit set through the Paris Agreement (Ironbark Sustainability 2 2017).

### How will this information be used?

The Shire commits to a minimum community greenhouse gas emission reductions target of 2.9% annually. The Shire also commits to working towards a target of a zero greenhouse gas emissions for the Peninsula. To achieve this the Shire will work in collaboration with other organisations such as the South-East Councils Climate Change Alliance.

As future Community Greenhouse Gas Profiles are prepared for the Shire and additional information becomes available, the greenhouse gas emission reduction target of 2.9% will be reviewed to ensure the target keeps within the 2°C increase set by the Paris Agreement.

Achieving this target is dependent on all levels of government, along with the business sector and the community playing a role in reducing greenhouse gas emissions. State and Federal policies and legislation on climate change mitigation also play a significant role in influencing greenhouse gas emissions within the Mornington Peninsula Shire. Consequently, advocacy to State and Federal governments to lead in climate change mitigation is critical to achieving these targets.

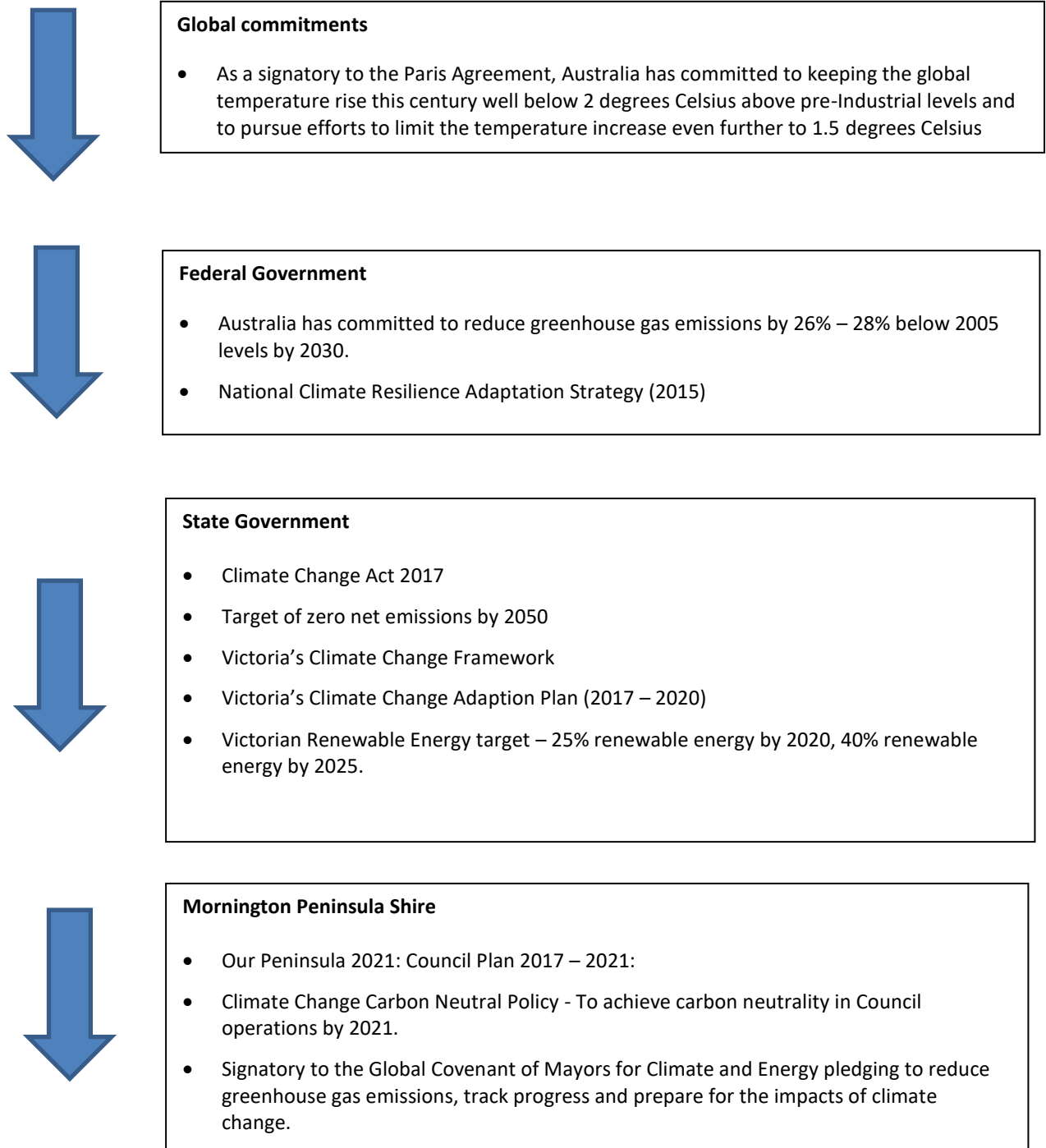
## **10. Strategic context**

This Strategy aligns strongly to a range of commitments, policies and legislation at a global, National, State and Local Government level (see Figure 9). Key to this are the Shire's commitments to:

- The Global Covenant of Mayors for Climate and Energy pledging to reduce greenhouse gas emissions, track progress and prepare for the impacts of climate change.
- Developing a Community Climate Change Plan (as stated in the Council Plan 2017 – 2021)
- The process of on-going, purposeful, participatory, inclusive and accessible community engagement approach on climate change that supports community resilience.
- Encouraging and supporting community led initiatives that aim to work towards carbon neutrality through shared learning (as stated in Climate Change Carbon Neutral Policy adopted in 2016).



**Figure 9: Strategic context influencing climate change management on the Mornington Peninsula.**



## **11. Action Plan**

### **11.1 Prioritising actions**

There are a range of projects that could be implemented to achieve the objectives of this Strategy. To determine the projects that most effectively reduce community greenhouse gas emissions or build community climate resilience, each action was assessed against set criteria to determine an overall rating out of 150. Scores below 75 are rated low priority (L), scores between 76 – 110 are rated medium priority (M) and scores between 111 – 150 are rated high priority (H). The assessment criteria and the scores are shown in full in Appendix 3.

The scoring of actions was conducted over two days by three Councillors and Shire officers from the Climate Change, Energy and Water team and the Natural Systems Team. Strategies or programs already approved by Council were listed but scored as maximum scores. Given the focus of this Strategy, the criteria are weighted towards actions that either reduce greenhouse gas emissions or assist the community to adapt to climate change. New actions, provided by the community and internal staff through the Have your say consultation period, have not been assessed but have been included in the strategy.

### **11.2 Understanding the Action Plan**

Each action within the Action Plan falls within one of six 'Key Delivery Areas'. These are:

1. Empowering our community
2. Generation of local renewable energy and improving energy efficiency
3. Improving water efficiency
4. Supporting low emissions transport
5. Reducing waste
6. Protecting natural assets and increasing carbon storage

Each Key Deliver Area includes:

1. A Goal or Goals;
2. Considerations – This section details the factors taken into consideration in developing the action recommendations. For instance, community feedback, climate change predications or demographic data; and
3. Shire Policy and Context – This describes the Shire's Policies, Plans or commitments that have guided the development of actions for each Key Delivery Area.
4. Actions.

## 11.3 Action Plan

### 1. Empowering our community

#### Goal

A community resilient to the impacts of climate change and supported to reduce greenhouse gas emissions through education, expert training and support.

#### Considerations

- Community feedback from the *Clean and Green* community consultation suggests strong support for increased education and awareness.
- Demographic data shows that 17.3% of community members are aged under 15 years and 24.5% are aged over 65 years. The population of retirement age is forecast to increase by 38.3% by 2026. 38,000 residents have some form of disability, with 6,921 requiring assistance with daily activities. The majority of these people are aged over 65 years. The elderly, disabled and young are identified as those most at risk to the impacts of increased temperatures.
- Scientists predict that by 2050, under a high emissions scenario, the climate of the Greater Melbourne Region will be similar to Adelaide today.

#### Shire Policy and context

- Supporting the community to adapt to climate change and reducing greenhouse gas emissions is a key commitment in the Shire's Councils Plan (Our Peninsula 2021: Council Plan 2017 – 2021).
- The Shire's Climate Change Carbon Neutral Policy (2016) sets out how the Shire will achieve carbon neutrality in Shire operations by 2021. This Policy strongly supports community and stakeholder engagement on climate change to support community resilience and support community led initiatives that work towards carbon neutrality.
- The Shire's Our Health and Wellbeing 2021 – Municipal Public Health and Wellbeing Plan 2017 – 2021 provides a strategic approach for protecting and promoting the health and wellbeing of community members across the municipality. This Plan fulfils the legislative requirements of the Public Health Act 2008 including climate change actions to improve health and wellbeing outcomes.

## Actions:

Outcome	Actions	Success measures	Target Audience	Responsibility	Timeframe	Overall rating
Increased community resilience to the impacts of climate change.	Deliver the Climate Ready community engagement program to educate and provide practical assistance to assist the community to prepare for the impacts of climate change.	Climate Ready group presentations to 500 people annually.  500 people assisted to scan documents in preparation for emergencies (annually).  'Let's get Ready' Disaster education Game delivered at 10 events annually.	Aged residents and disability carers, families with young children, general community.	Co-ordination Climate Change, Energy and Water. Other Shire teams involved: Health and Community Care, Aged and Disability, Libraries. Other: Community Centres	On-going. Focus for delivery Oct - April	103.33 - M
	Assistance to community to prepare Climate Ready Action plans using the Climate Ready website ( <a href="http://www.climateready.com.au">www.climateready.com.au</a> ).	300 Summary Climate Ready Plans prepared annually.  300 Detailed Climate Ready Plans completed on-line annually.	Aged residents and disability carers, families with young children, general community.	Co-ordination Climate Change, Energy and Water. Other Shire teams involved: Health and Community Care, Aged and Disability, Libraries. Other: Community Centres	On-going. Focus for delivery Oct – April.	101.33 - M
	Launch the Emergency Preparedness Booklet and develop and deliver an associated Communications Strategy in conjunction with City of Greater Dandenong, City of Kingston and City of Frankston.	Website and booklet launched in October 2018.  Communications Strategy developed, and implementation initiated in October 2018.	Residents in high bushfire danger areas, elderly, disabled people and their carers, families with young children, residents in known flood areas, general	Environmental Protection (Emergency Management Co-ordinator).	2018/19	Not rated during assessment process.

Outcome	Actions	Success measures	Target Audience	Responsibility	Timeframe	Overall rating
			community and tourists.			
Environmentally sustainable businesses recognised.	Work with the Environmental Protection team through the Best Bites Program to recognise outstanding environmental achievements in businesses.	Recognition system established for environmentally sustainable businesses.	Shire businesses.	Climate Change, Energy and Water and Environmental Protection	2018/19	80 - M
Increased awareness of the impact of sea level rise	Promote the Witness King Tides program, a community photographic project to help visualise the impacts of sea level rise by photographing and monitoring kind tide events. ( <a href="http://www.witnesskingtides.org">www.witnesskingtides.org</a> )	100 new participants annually.	Schools, Coastcare and Friends groups, Beach Patrol Groups	Co-ordination Climate Change, Energy and Water	2018/19	56.33 - L
Improved understanding of Shire climate change adaption and improved planning.	Participate in the refinement of <i>How well are we adapting?</i> web-based tool to measure how well the Shire is preparing, and helping the community to prepare for, climate change impacts.	New website finalised.	Western Alliance for Greenhouse Action, other local governments, RMIT	Western Alliance for Greenhouse Action with input from Climate Change, Energy and Water.	2019/20	84 - M
Increased community resilience to extreme weather events.	Ensure all Shire community field workers are trained to care for themselves and their clients in extreme weather events.	Annual training of field workers.	Council Officers - Health and Community Care. Natural Systems Staff	Health and Community Care and Environmental Protection (Emergency Management Co-ordinator).	On-going annually	81 - M
Community members empowered to develop and deliver sustainability initiatives.	Implement a Sustainable Ambassadors Program to train and mentor community members to develop and deliver	90 Community members trained and mentored over three years.	Community leaders	Co-ordination: Climate Change, Energy and Water.	Delivered over three years with a review in 2020/2021.	105.67 - M



Outcome	Actions	Success measures	Target Audience	Responsibility	Timeframe	Overall rating
	sustainability initiatives within their communities.					
Increased student awareness of climate change, sustainable living and support for climate change action.	Expand the Eco Living Display Centre school's education program to offer water, waste, energy and climate change incursions to schools. Focus on current science, positive initiatives and practical actions.	Educate 1000 students in the climate change education program over 3 years.	Middle to upper primary and lower secondary students.	Co-ordination: Climate Change, Energy and Water team.	Delivered over three years with a review in 2020/2021.	96.67 - M
Teachers empowered to deliver sustainable initiatives within schools.	Deliver training to support teachers to foster student leaders to develop and deliver climate change projects within schools.	Train 90 teachers over three years.	Primary school teachers	Climate Change, Energy and Water team	Trial and review in Yr. 1. – 2018/19 Continue based on review in Yr. 2 and Yr. 3 – 2019/20, 2020/21	84.33 - M
Increased community led climate change initiatives.	Provide advice to community groups and individuals engaged in climate change initiatives.	Provide professional and timely advice as requested.	Community and key stakeholders	Climate Change, Energy and Water team	On-going	88.67 - M
Increased community understanding of actions required to reduce greenhouse gas emissions.	Promote the State Governments TAKE 2 pledge program aiming to reach zero net emissions by 2050, and keep the global temperature rise to under 2 degrees.	Promotional program developed and delivered.	General community	Program co-ordination: Sustainability Victoria. Local promotion: Climate Change Energy and Water team	For life of the program	62.67 - L
	Offer advice to residents on energy efficiency and renewable energy e.g. through on-line information and personal assistance.	Advisory service expanded to cover renewable energy and include a range of venues across the Shire.	Home owners and renters	Climate Change, Energy and Water with key external providers e.g. the Alternative Technology Association.	Initiated 2019/20 then on-going	76.67 - M

Outcome	Actions	Success measures	Target Audience	Responsibility	Timeframe	Overall rating
		On-line information on energy efficiency and renewable energy developed.				
Improved co-ordination across Shire climate change community engagement programs.	Work across Shire teams to develop a Communication Plan to set out program delivery, timing, marketing and branding of the Shire's climate change programs.	Climate Change Communication Plan developed and delivered.	Shire teams for community communication	Co-ordinator: Climate Change Energy and Water team	2018/19 and reviewed annually	76.33 - M
Female residents empowered to act on climate change	Work with 1 Million Women ( <a href="http://www.1millionwomen.com.au">www.1millionwomen.com.au</a> ) to design a mobile app to encourage women and girls to take positive climate change action.	1 Million Women app designed and delivered on the Mornington Peninsula	Female residents	Climate Change Energy and Water team	2018/19 and on-going	Not rated as part of assessment process

## **2. Improving energy efficiency and generation of local renewable energy**

### **Goals**

Affordable access to renewable energy for households, businesses and community organisations.

Improved building efficiency and access to energy efficient products.

### **Considerations**

- Community feedback from the Clean and Green community consultation suggests strong support for expert assistance and financial subsidies and incentives.
- 43 % of dwellings in residential zones on the Peninsula are over 30 years old. Older houses without energy efficiency upgrades have poor energy efficiency.
- Victorian electricity and gas prices will be increasing in January 2018 placing increased pressure on households with poor energy efficiency.

### **Shire Policy and context**

- As a signatory to the Global Covenant of Mayors for Climate and Energy the Shire is committed to reducing greenhouse gas emissions, track progress and prepare for the impacts of climate change.
- The Shire is committed to offering businesses access to energy, water and waste upgrades through Environmental Upgrade Finance.

## Actions

Outcome	Action/s	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Increased residential uptake of renewable energy.	Conduct Solar / Battery Group Buy and investigate other options for subsidies for long-term loan arrangements for residential renewable energy.	At least 400 households to participate.	Home owners, Pensioners and Health Care Card Holders.	Climate Change, Energy and Water team	2020/21	76.6 - M
Improved energy efficiency for residents and businesses.	Offer personal free advice to residents and businesses on energy efficiency and renewable energy. Extend program to work in conjunction with Shire Planners and to offer consultations in Shire libraries.	200 Energy Efficient Homes consultations over 3 years.  Three Case Studies developed to highlight the economic benefits of sustainable design.	Resident building new or extending existing homes, builders, small to medium sized businesses	Climate Change, Energy and Water team and volunteers. Other Shire teams: Planning, Libraries.	On-going	86 - M
	Offer subsidies for sustainable retrofits to improve household energy efficiency (e.g. external awnings, fans and draught proofing).	Retrofits for 50 households during Year 1 (trial). Measure for program rollout to be set at trial evaluation.	Pensioners and Health Care Card Holders.	Climate Change, Energy and Water team	Trial in 2019/20. Full delivery in 2020/21.	76.5 - M
	Continue to facilitate Environmental Upgrade Agreements (EUA's) for business to access low interest, long term loans for energy, waste and waste initiatives	10 new EUA's signed per year.	Business owners	Climate Change, Energy and Water team	For the life of the program	89.75 - M
Increased integration of Environmentally Sustainable Design principles into residential homes and businesses.	Promote sustainable house design through participating in Sustainable House Day, and encouraging residents to participate in Sustainable House Day.	150 people attending Sustainable House Day annually at the Eco Living Display Centre.	Home owners or businesses building or retrofitting.	Climate Change, Energy and Water team.	On-going	90.6 - M

Outcome	Action/s	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
	Provide opportunities for resident to learn about sustainable design from experts e.g. through the Alternative Technology Association's program Speed Date a Sustainability Expert.	At least 100 participants for each event.	Home owners or businesses building or retrofitting.	Climate Change, Energy and Water team.	2018/19 and 2020/21	87 - M
Increased integration of Environmentally Sustainable Design principles into residential homes and businesses. (cont.)	Advocate to State Government and other organisations for Environmentally Sustainable Design (ESD) to be incorporated into the Mornington Peninsula Shire Planning Scheme or the Victorian Planning Provisions.	Advocacy undertaken and ESD incorporated into the Mornington Peninsula Shire Planning Scheme or Victorian Planning Provisions.	State Government and the Victorian Building Authority and Australian Building Codes Board	Planning and Climate Change, Energy and Water team.  Input from Council Alliance for a Sustainable Built Environment (CASBE)	On-going	78.4 - M
	Develop an ESD Policy and Guidelines for planners to assist residents integrate ESD into new builds or building upgrades.	Environmentally Sustainable Design Policy and Guidelines developed.	Internal documents to assist home owners and businesses building or retrofitting.	Climate Change, Energy and Water team and Planning.	2020/21	77.2 - M

### 3. Improving water efficiency

#### Goals

Reduced water use, improved stormwater quality, prevention of stormwater flooding of households and businesses and improved wastewater management.

#### Considerations

- Scientists predict that when droughts occur they will be longer and more severe.
- Less rainfall will fall in winter and spring and more rainfall will fall in summer.
- Frequency and intensity of extreme rainfall events are expected to increase.
- Increased frequency and intensity of rainfall events will increase pressure on Onsite Wastewater Systems (septic systems), increasing the risk of groundwater contamination.

#### Shire Policy and context

- The Smart Water Plan (2013) sets out the strategic directions, targets and actions for the Shire's sustainable water resource management on the Mornington Peninsula. The Strategy focuses on:
  - Reduced water use in the home and reduced use of groundwater;
  - Use of recycled water and rainwater tanks; and
  - Reduction of pollutants to improve waterway health.
- The Draft Wastewater Management Plan 2018 – 2023 includes:
  - Supporting South East Water sewerage programs;
  - Linking wastewater management to the Shire's Smart Water Plan;
  - Continued education of residents and businesses on correct wastewater management;
  - Development of a compliance and enforcement process to address failing wastewater systems, developed in conjunction with residents and the local wastewater industry.

## Actions

Outcome	Action	Success measure/s	Target Audience	Responsibility	Timeframe	Overall rating
Reduce the impact of high groundwater use and/or reduce demand on groundwater, particularly in areas of high demand and little availability	Design and deliver education to increase the understanding of groundwater availability and salinity content	Reduced demand on groundwater bores	Property tenants using groundwater bores	Climate Change, Energy and Water	2019/20	Not rated during assessment process
	Investigate opportunities for aquifer recharge from alternate water sources e.g. Recycled water	Government support and in principle commitment for accessing recycled water for aquifer recharge	Shire, Melbourne Water, South East Water, Southern Rural Water, Department of Environment, Land, Water & Planning (DELWP)	Climate Change, Energy and Water	Ongoing	Not rated during assessment process
Improved stormwater quality from Industry and business	Introduce new standards for food businesses to have a mandatory waste water / cleaner sink on their premises.	More food business premises with a cleaner sink installed over the life of the program	Business owners and small to medium size Industry	Co-ordination: Climate Change, Energy and Water team. Other teams: Environmental protection Unit.	2019/20	78 – M
	Deliver an education, monitoring and enforcement program for small to medium size industrial premises. This program targets waste water management and prevention of stormwater contamination.	Educational material developed and promoted.  Water quality monitoring of stormwater undertaken.  Fewer beach closures.	Business owners and small to medium size Industry.	Co-ordination: Climate Change, Energy and Water team. Other teams: Environmental protection Unit.	2019/20	69 - L
Improved household water efficiency and stormwater improvements	Design and deliver education workshops and materials to promote: <ul style="list-style-type: none"> <li>water efficient behaviours, fixtures and fittings;</li> <li>the use of raingardens;</li> </ul>	Educational material developed and promoted. 3 Raingarden workshops delivered annually. Eco Living Display Centre tours regarding household	Home owners Schools	Climate Change, Energy and Water team. Other teams: Environment Protection Unit.	2019/20	81 - M

Outcome	Action	Success measure/s	Target Audience	Responsibility	Timeframe	Overall rating
	<ul style="list-style-type: none"> <li>improved maintenance of septic tanks and encouraged connection to sewer where available; and</li> <li>encourage water re-use at key townships across the Shire.</li> </ul>	<p>water efficient fixtures and fittings</p> <p>Fewer septic tanks on the Peninsula</p> <p>Fewer septic tanks in poor maintenance condition</p>				
Improved household water efficiency and stormwater improvements (cont.)	Support the delivery of the Victorian Government's programs to promote reduced residential water use e.g. 'Target 155', encouraging residents to keep water use below 155 litres per person per day.	Program designed and delivered successfully against program objectives.	Home owners, renters	Climate Change, Energy and Water	2018/19 and for the life of the Target 155 program	91.75 - M
Increase funding provided for integrated water management.	Advocate to State government for increased funding for stormwater and recycled water infrastructure to prevent and mitigate the impacts of flooding and reduce the demands of potable water supply during periods of drought.	Government support for recycled water and stormwater infrastructure	Agriculture Community Sports grounds/facilities State Government	Climate Change, Energy and Water	On-going	78 - M
Investigate options for use of recycled water in the agriculture.	Work collaboratively with South East Water, Department of Environment, Land, Water and Planning and the agriculture sector to investigate options for large-scale use of recycled water from the eastern outfall pipeline.	Government support and in principle commitment for accessing recycled water from the eastern outfall pipeline.	Landholders, agricultural businesses	Climate Change, Energy and Water, Economic Development	On-going	88.75 - M
Decreased ground and surface water contamination due to	Finalise the Shire's Wastewater Management Plan.	Wastewater Management Plan adopted, and implementation initiated.	Internal Shire Departments, South East Water, Environmental	Environmental Health team	2018 - 2023	Not rated as part of assessment process.



Outcome	Action	Success measure/s	Target Audience	Responsibility	Timeframe	Overall rating
improved management of wastewater.			Protection Authority.			

#### 4. Supporting low emissions transport

##### Goals

Improved sustainable transport options including public transport, cycling and walking and electric vehicles.

Increased community use of sustainable transport.

##### Considerations

- 26.7% of people living on the peninsula experience transport limitations.
- 97.1% do not use cycling as a mode of transport
- 69.1% do not use walking as a mode of transport
- The Peninsula has twelve bus routes and one rail line.

(VicHealth Indicators Survey 2011)

##### Shire Policy and context

The Shire's Sustainable Transport Strategy (2015) sets out the Shire's vision on sustainable transport and outlines six priority areas for action.

1. Increase transport options for our ageing population;
2. Better access to education and employment;
3. Less traffic congestions around schools;
4. Reduce our high dependency on private motor vehicle usage;
5. Integration of transport and land use planning;
6. Increase instances of active transport by promoting walking and riding.

## Actions

Outcome	Action/s	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Enhanced and more frequent access to public transport services on the peninsula, access to alternative and low emissions transport.	Implement and review the Shire's Sustainable Transport Strategy.	Sustainable Transport Strategy implemented.	All stakeholders	Traffic and Transport team	2021/22	150 - H
Advocacy to State government for increased public transport	Work with the Transport Community Action Advisory Group to advocate for improved public transport on the Peninsula, including a State Government Public Transport Review.	Advocacy undertaken.  Public Transport Review undertaken	All stakeholders	Traffic and Transport team, Transport Community Action Advisory Group	On-going	150 - H
Increased use of electric vehicles (EV's)	Review existing EV charging stations, identify gaps and widely promote network. Utilise <a href="http://www.plugshare.com">www.plugshare.com</a> and <a href="http://www.chargepoint.com.au">www.chargepoint.com.au</a>	EV charging network map developed and promoted.	Residents and holiday makers	Climate Change, Energy and Water, Traffic and Transport, Infrastructure Planning	2018/19	83 - M
	Seek funding or partnerships to install additional charging stations.	Funds secured, and stations installed.	Residents and holiday makers	Climate Change, Energy and Water	2019/20	92.29 - M
	Advocacy to Federal and State governments for the introduction of incentives to increase the uptake of EVs	Advocacy undertaken	Department of Transport, Department of Infrastructure and Regional Development	Traffic and Transport team, Climate Change, Energy and Water	On-going	78.86 - M

Outcome	Action/s	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Increased use of walk / cycle paths on the Peninsula.	Implement the Pedestrian Access Strategy and the Principle Pedestrian Network to encourage and facilitate walking as a mode of transport by providing an integrated and connected network of paths that enhance the user experience of walking.	Ongoing commitment to the construction of pedestrian-based infrastructure, more specifically footpaths.	Residents and holiday makers	Infrastructure Planning	5 Year Strategy until 2022	150 - M
	Progress the Roadside Trails & Equestrian Strategy to encourage the recreational use of key trails within the peninsula.	Ongoing implementation of the Strategy	Residents and holiday makers	Infrastructure Planning	2014 to 2019	86.57 - M
	Adopt the Shire's Bicycle Strategy, RideSafe	Adoption of the new RideSafe strategy and commencement of its implementation to enable more residents and visitors to safely cycle within the Shire	Residents and holiday makers	Traffic and Transport team	Adopted by 2019 and implemented by 2021/22	150 - H
	Promote walk / cycle paths	Cycle trail maps available via the Shire's website	Residents and holiday makers	Traffic and Transport team	On-going	94.43 - M
	Advocate to State Government for improved public transport and walking/cycling options.	Advocacy undertaken	Residents and holiday makers	Infrastructure Planning and Traffic and Transport team	On-going	84.29 - M

<b>Outcome</b>	<b>Action/s</b>	<b>Success measure</b>	<b>Target Audience</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Overall rating</b>
Encourage sharing of existing transport resources to provide alternative transport options on the Peninsula	Continue to support Peninsula Transport Assist (PTA) Inc., a volunteer led initiative to provide low cost volunteer assisted transport to vulnerable community members.	Shire support to PTA continued.	Residents	Traffic and transport team	On-going	150 - H
	Continue to promote and support sharing of community buses.	Shire support for bus sharing continued.	Residents	Traffic and transport team	On-going	150 - H
Promote ride sharing platforms	Promote ride sharing services in the light of recent Commercial Passenger Vehicle Reforms.	Ride Sharing Services promoted	Residents and holiday makers	Traffic and transport team	On-going	150 - H

## 5. Reducing waste

### Goal

A reduction in municipal waste to landfill with a key focus on minimising food waste.

### Considerations

- Globally about 30% of the food supply is never eaten. In developed countries, this food waste occurs predominantly amongst consumers, retail, and restaurants. When placed in landfill and buried, discarded food produces methane, a greenhouse gas twenty-four times more potent than carbon dioxide over its lifetime and eighty-four times more potent in its first two decades (Kim, B., Neff, R, Santo, R and Vigorito, J 2015)
- In terms of greenhouse gas emissions, waste sources account for 10% of total emissions on the Mornington Peninsula, with half coming from biological treatment of wastewater and half from the disposal of solid waste (Ironbark Consulting 1 2017).
- In 2016/17, a total of 37,285.79 tonnes of waste was deposited to landfill on the Mornington Peninsula comprising of 32,756.35 tonnes of municipal waste (from kerbside waste and public bins) and 4, 529.44 tonnes of Industrial waste.
- Of the Shire's municipal waste, around 40% is estimated to be organic or food waste (All Environment Concepts 2013).

### Shire Policy and Context

- The Shire's Municipal Waste and Resource Recovery Services Strategy (2015) aims "*To provide an efficient range of services, moving towards 'zero waste', to reduce the environmental impact and carbon footprint of the organisation and wider community*". The objectives that most align closely with this Strategy are to:
  - Increase resource recovery and reduce waste to landfill;
  - Provide a waste and resource recovery service for residents, which is efficient, accessible and safe, and meets the needs of the Mornington Peninsula community; and
  - Support the continued delivery of waste and resource recovery education and community behaviour change programs.

## Actions

Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Decreased waste to landfill	Continue to implement the recommendations from the Shire's Waste and Resource Recovery Strategy 2015.	Shire's Waste and Resource Recovery Strategy 2015 implemented.	All stakeholders	Waste Services Team	On-going	150 - H
Decreased waste and improved water and energy efficiency at events.	<p>Work in collaboration with the Shire's Events team to develop a Shire Events Policy and Guidelines incorporating sustainable guidelines for Shire and external events.</p> <p>Run a Forum for Events Managers to introduce the Events Policy and Guidelines.</p> <p>Develop a Green Events resource kit and signage for event managers.</p> <p>Conduct an events waste audit before and after the introduction of Guidelines and review the program based on audit findings.</p> <p>Promote Green Events to Event Managers using Case Studies via social and print media.</p>	All Shire events run according to Sustainable Events Policy and Guidelines.	<p>Shire event organisers.</p> <p>External event organisers.</p>	Waste Services team, Events team	<p>Planning: 2018/19</p> <p>Implementation: 2019/20</p> <p>Evaluation: 2020/21</p>	99 - M

Decreased food waste	<p>Conduct composting and worm/farming workshops at Community Centres and other venues across the Peninsula. Assist Community Kitchens to establish and maintain composting.</p> <p>Offer up to 1000 subsidised compost bins / worms farms and information for residents over three years.</p> <p>Conduct food waste campaign to reduce household food including education on sustainable shopping practices, food storage and re-use.</p> <p>Develop an on-line Green Guide detailing local sustainable options for waste, water, energy and transport.</p>	Household bin audit to determine a decrease in food waste.	Householders, renters and holiday makers	Waste Services team	2018/19 - 2019/20 2020 /21	92.25 - M
Increased public place recycling	<p>Bin audit and review of best practice public place recycling. Based on audit and review, conduct needs analysis to identify areas for public place recycling.</p> <p>Install recycling bins and educational signs in high visitation areas.</p>	<p>Recycling bins and accompanying education signs installed at high visitation sites.</p> <p>Public bin audits to determine a decrease in bin contamination from current rates.</p>	Residents, day trippers, holiday makers.	Waste Services team and Buildings and Facilities.	2020/21	76.4 - M



Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Decreased use of single use plastic items	<p>Advocate for the passing of State government legislation banning single use plastic bags.</p> <p>Work with retailers and Chambers of Commerce to offer alternatives to single use plastic items e.g. bags, containers and straws.</p> <p>Conduct an education program to raise awareness of benefits of phasing out single-use plastic items.</p>	Survey conducted finding: 1. fewer plastic bags distributed by retailers and 2. attitudinal change towards the use of single use plastic items.	Residents, day trippers, holiday makers.	Waste Services team	On-going	77.6 - M
Decreased use of single use plastic bottles	Obtain portable water stations	Portable water stations rotated at high visitation areas, particularly during peak summer season.	Residents, day trippers, holiday makers.	Waste Services team	2020/21	58.25 - L
	Install water stations at key recreational and shopping precincts.	Water stations installed.	Residents, day trippers, holiday makers.	Waste Services team and Buildings and Facilities.	2020/2021	72.4 - L
Increased awareness of recycling and sustainable waste disposal options	Annual 'War on Waste' Expo.	Over 250 attendees at 'War on Waste Expo' annually	Residents	Waste Services team, Community groups and organisations.	2018/19 2019/20 2020/21	79.8 - M
	Develop interactive waste education display for events	Interactive display developed	Residents and holiday makers	Waste Services team	2018/19	68.4 - L
	Present display and education material at events	Attend at least 4 events annually	Residents and holiday makers	Waste Services team	On-going	70 - L

Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Decreased business and industrial waste to landfill	Research new technologies and investigate opportunities to reduce commercial waste	Partnerships formed to reduce commercial waste from commercial industries. E.g. Winery industry to address winery netting.  New technologies investigated and costed, and recommendations made to Council.	Businesses, landholders, Industry	Economic Development, Waste Services team	2020/21	72 - L
	Complete and review trial of agricultural silage wrap recycling	Trial completed, reviewed and recommendations made to Council.	Landholders	Economic Development, Waste Services team	Trial to be completed end of 2018	108.6 - M
	Investigate suitable incentives for businesses to reduce waste. E.g. Reduction of food licence fees.	Incentive mechanisms investigated, and recommendations made to Council for adoption	Business owners	Economic Development, Waste Services team, Environmental Protection Unit	2020/21	72.8 - L
	Promote sustainable initiatives for businesses at Business Network forums e.g. opportunities to access Environmental Upgrade Finance and sustainable procurement initiatives.	Sustainability Initiatives promoted at 4 forums annually	Business owners	CCEW, Waste team, Economic Development	On-going	Not rated as part of assessment process

## 6 Protecting natural assets and increasing carbon storage

### Goal

A community aware of climate change impacts on natural and agricultural assets and empowered to adapt agricultural management systems and protect and enhance natural assets to increase carbon storage.

### Considerations

The Mornington Peninsula Shire contains:

- Approximately 22,000 hectares (30%) of native vegetation remaining, of which: 57% is on private land; 18% is within National and State Parks; and 9% is within Bushland Reserves managed by the Shire.
- Over 60 Ecological Vegetation Communities (EVCs) occurring within five major vegetation types.
- Three vegetation communities listed as threatened under the national Environment and Protection and Biodiversity Conservation Act (1999) and two under the state Flora and Fauna Guarantee Act (1988).
- Flora and fauna species of regional, state, national and international significance.
- One internationally significant Ramsar wetland (Western Port Bay).

(Mornington Peninsula Shire 2017 - 2.)

Climate change is predicted to have a range of impacts on natural and agricultural assets including:

- Reduced water flows and quality and increased water temperatures in waterways impacting on native plants and animals.
- Pets, wildlife and farm stock will be under increased heat stress.
- Loss of crops and damage to industry.
- Increased water costs and loss of income for agriculture and other water-dependant businesses.
- Inundation of native vegetation and increased erosion due to sea level rise.
- Inland flooding as coastal waters are pushed back up along stormwater drains in severe storm events.
- Salt water travelling further up rivers and streams impacting on native plants and animals.
- Flooding of properties in low lying coastal areas.

(Kinrade, P and Preston, B 2008)

## **Shire Policy and context**

The Mornington Peninsula Shire is currently developing a Biodiversity Conservation Plan. This Plan will assist the Shire protect and enhance biodiversity on the Peninsula and help direct priorities for management over the next five years and beyond (Schmidt and Gold 2017). The actions recommendations for this Key Delivery Area draw from the extensive research undertaken in the development of the Biodiversity Plan.

Climate change exacerbates the identified key threats to biodiversity which include ongoing land clearing, weeds and feral animals. Implementing a combination of improved bushland vegetation quality and habitat complexity with strategically placed extensions of bushland footprint provides the potential for future proofing the Mornington Peninsula's biodiversity against the uncertain stresses presented through climate change. Strategic extension of bushland (biolinks) will be guided by the biodiversity significance mapping undertaken as part of the Biodiversity Conservation Plan with the potential for incentive schemes to engage private landowners in participating.

## Actions

Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Provide a strategic plan for the protection of biodiversity values on the Mornington peninsula	Develop and adopt a Biodiversity Conservation Plan.	Biodiversity Conservation Plan adopted.	All stakeholders	Natural Systems Team	2018/19 Draft Plan released for comment	150 - H
Provide a strategic approach to climate change adaptation in agricultural systems	Implement the actions from the Shire's Agricultural audits and associated reports including actions relating to climate change adaptation.	Recommendations from agricultural audits implemented	Landholders	Economic Development	On-going	92.75 - M
Increased membership and participation in Friends groups	Increase public participation in biodiversity protection through a recruitment campaign for local Friends groups volunteers.	Increased total membership of Friends groups by 20%	Focus on connecting groups with schools, TAFE and university.	Natural Systems Team	2-year membership drive	90 - M
Increased expertise and capacity of Friends groups	Continue to support and train volunteers in managing biodiversity in our bushland reserves.  Prepare a training manual for volunteers to complement existing practical training.  Continue events to recognise and celebrate work of groups.  Increase staff resourcing to expand support for Friends groups.	2 to 3 members of each group have introductory bushland management accreditation	Friends and Landcare group members	Natural Systems Team	Ongoing	102 - M
Members of the public are able to access Shire biodiversity information easily	Improve biodiversity information on our website – give it more prominence, improve navigation, expand content and promote.	75% of website users give positive feedback	General public	Natural Systems Team	Ongoing	68.5 - L

<b>Outcome</b>	<b>Actions</b>	<b>Success measure</b>	<b>Target Audience</b>	<b>Responsibility</b>	<b>Timeframe</b>	<b>Overall rating</b>
Strong participation in citizen science programs	Continue to build on the Shire's current citizen science programs such as Powerful Owl monitoring. Partner with other organisations to promote community involvement in established biodiversity engagement/citizen science programs (such as Birdlife Australia's Aussie Backyard Bird Count, Melbourne Water's Frog Census app) and hold biodiversity engagement events that align with national and international days like World Wetlands Day, International Biodiversity Month.	4 fully subscribed citizen science projects per year	General public, schools	Natural Systems Team	Annually	89.5 - M
A joint agreed approach to biodiversity management	Develop a shared understanding and partnership with traditional owners and local Registered Aboriginal Parties (RAP) to foster cultural land management practices.	Agreement reached with RAP	Aboriginal representative groups	Natural Systems Team	Within 2 years	110 - M
Increased visitation to Peninsula natural environments	Deliver a dedicated campaign to promote the unique natural environments of the Mornington Peninsula, focussed on shire-managed bushland reserves, to provide more opportunities for our community to connect with and spend time in nature locally.	15% increased visitation over 5 years	General public	Natural Systems Team	Over 5 years	73 - L

Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Increased landholder knowledge of biodiversity protection	<p>Develop a better range of educational resources to provide practical guidance for landowners on biodiversity conservation and sustainable land management practices, building on the Common Ground Facts Sheets. Key topics to include managing environmental weeds, pest animals, biodiversity and fire risk, understanding vegetation types, habitat value.</p> <p>Continue to provide support to the Mornington Peninsula Landcare Network to deliver their Biolinks Plan.</p>	Educational resource kit developed	Farmers and properties eligible for the Land Sustainability Rebate	Natural Systems Team, Economic Development	12 months	80.5 - M
All new landholders receive a welcome pack	<p>Provide a welcome pack to new land owners in target areas providing information on local biodiversity conservation and sustainable land management practices.</p> <p>Utilise other opportunities to provide this pack to landholders, e.g. via request on the website, at one-to-one visits, through targeted campaigns or as part of the incentives programs.</p>	Welcome pack delivered to all new landowners	New land owners	Natural Systems Team, Economic Development	Ongoing	78.25 - M

Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Increased awareness and practical knowledge among landholders	Work collaboratively with other organisation to: . promote adaptive agriculture; . promote biodiversity conservation; . raise awareness of the impacts of climate change on agriculture; . promote activities that retain soil carbon.	Joint events held with an emphasis peer-to-peer learning such as workshops, field days, site tours, open days. E.g. through the Climate Resilience Smart Farming grant.  Information distributed via Shire website, publications and relevant media.	Landholders	Internal: Economic Development, Natural Systems. Collaboration with: Port Phillip and Westernport Catchment Authority, Trust for Nature, Dept. of Agriculture, CSIRO, Westernport Landcare Network. Mornington Peninsula Vignerons Association	2018 - 2023	106 - M
Increased practical knowledge among landowners of biodiversity conservation	Provide one-to-one advice to landholders seeking to undertake biodiversity conservation works on their land.  Promote the availability of this service and track and monitor uptake of the service.	Landholders benefit from timely conservation advice	Landholders with significant remnant bushland	Natural Systems Team	Ongoing	89 - M
Future proofing biodiversity against climate change and increased carbon storage through bushland protection and tree planting	Support Landcare with their bio links program and bushland management program.  Investigate incentive schemes to engage additional private landowners.  Increase biodiversity protection works on Shire land.	Monitoring program implemented every 5 years shows biodiversity resilience	Landholders	Natural Systems Team	Ongoing	100.25 - M



Outcome	Actions	Success measure	Target Audience	Responsibility	Timeframe	Overall rating
Improved sustainable land management practices through strengthening the Land Sustainability Rebate	<p>Audit 10% of rebate recipients annually against set criteria.</p> <p>Review criteria (after 3 years) to develop more targeted guidelines and consider refinement of eligibility criteria to align with biodiversity and sustainable land management objectives.</p>	Land Sustainability Rebate Guidelines targeted to align with biodiversity and sustainable land management practices.	Landholders	Natural Systems Team, Economic Development	3 years – review report delivered 2021.	86.25 - M
Increased carbon storage and improved biodiversity management through supporting landholders	Provide a rebate for landholders with land conservation covenants (dollars per hectare covenanted)	Rebate scheme devised and implemented	Landholders	Natural Systems Team	Commence within 18 months	90.25 - M
	<p>Investigate suitable support opportunities for property owners in areas of mapped biodiversity significance that align with their needs. E.g. Grant scheme that funds a proportion of material costs for biodiversity protection.</p> <p>Subsidising attendance of commercially run land management courses and / or partnering with other agencies to provide land management courses.</p> <p>Provision of technical advice.</p>	Grants program investigated, and recommendations made to Council.	Landholders	Natural Systems Team	Report within 12 months	84.25 - M
Thorough analysis of carbon sequestration options provided	Conduct cost / benefit analysis for carbon sequestration options on the Peninsula in natural and agricultural systems including recommendations for future actions.	Cost / benefits analysis finalised, recommendations made and progressed.	Landholders, land managers	Economic Development, CCEW Collaboration with: PPWPCMA, Department of Agriculture, CSIRO	2020/21	82.75 - M

Outcome	Actions	Success measures	Target Audience	Responsibility	Timeframe	Overall rating
Increased carbon storage on Shire land	Develop a Street Tree Policy and an urban street tree protection and renewal program, in consultation with residents.	<p>Street Tree Policy and urban street tree policy developed.</p> <p>Report delivered setting carbon storage targets for urban street trees (over a 40 year period).</p> <p>Canopy cover maintained or improved.</p> <p>Increased cover of indigenous vegetation.</p> <p>Increased species and structural diversity in plantings.</p>	Broadspectrum Residents	Natural Systems Team	<p>Policy development 2018/19</p> <p>Street Tree Renewal program by 2021</p>	Not rated during assessment process

## **12. Evaluation and review**

This Strategy will be reviewed in 2021, following the review of the Shire's Council Plan *Our Peninsula 2021*. Evaluation of the success of the strategy will be based on the success measures set out in the Action Plan. In addition, evaluations will take place at the completion of each program based on success measures established at program inception. The findings from these evaluations will inform subsequent programs.

### 13. References

All Environment Concepts (2013) *Mornington Peninsula Shire Domestic Garbage and Recycling Waste Audit – June 2013*. All Environment Concepts.

Australian Bureau of Statistics (2016) *Census of Population and Housing 2016*. Compiled and presented in profile.id by id. The population experts.

Activate Consulting and Chatterbox Projects (2017) *Clean and Green Peninsula Consultation Report*. Activate Consulting and Chatterbox Projects.

Barlow, R (2010) *Liveable and Just: A toolkit for local governments to address the social and equity impacts of climate change*. The Victorian Local Government Association.

Ironbark Consulting 1 (2017) *Mornington Peninsula Shire Greenhouse Gas Profile Report*. Ironbark Consulting.

Ironbark Consulting 2 (2017) *Mornington Peninsula Shire Greenhouse Gas emission science-derived targets*. Ironbark Consulting.

Kim, B., Neff, R, Santo, R and Vigorito, J (2015) *The Importance of Reducing Animal Product Consumption and Wasted Food in Mitigating Catastrophic Climate Change*. John Hopkins Center for a Liveable Future.

Kinrade, P and Preston, B (2008) *Impacts of Climate Change on Settlements in the Western Port Region: People, Property and Places Final Report*. CSIRO, Marsden Jacob Associates and Western Port Greenhouse Alliance.

Melbourne Water (2017) *Planning for Sea level Rise Guidelines – Port Phillip and Western Port Region*. State Government of Victoria.

Mornington Peninsula Shire (2012) *Draft Mornington Peninsula Shire Community Engagement Guide*. Mornington Peninsula Shire

Mornington Peninsula Shire (2013) *Smart Water Plan: An integrated approach to water management for the Mornington Peninsula*. Mornington Peninsula Shire.

Mornington Peninsula Shire (2015) *Municipal Waste and Resource Recovery Services Strategy*. Mornington Peninsula Shire.

Mornington Peninsula Shire (2017 1.) *Our Peninsula 2021: Council Plan 2017 – 2021*. Mornington Peninsula Shire.

Mornington Peninsula Shire (2017 2.) *Our Health and Wellbeing 2021: Social Profile*. Mornington Peninsula Shire.

Schmidt, B and Gold, D (2017) *Draft Mornington Peninsula Shire Biodiversity Conservation Plan: Future Directions Background Paper*. Ecology Australia.

## 14. Glossary

**Carbon dioxide equivalent (CO<sub>2</sub>-e)** – The universal unit of measurement to indicate the global warming potential of each greenhouse gas, expressed in terms of the global warming potential of one unit of carbon dioxide. It is used to evaluate the climate impact of releasing (or avoiding releasing) different greenhouse gases.

**Climate change** - A change in the pattern of weather, and related changes in oceans, land surfaces and ice sheets, occurring over time scales of decades or longer.

**Climate change adaptation** - Changes in natural or human systems to prepare for actual or expected changes in the climate in order to minimise harm, act on opportunities or cope with the consequences.

**Climate change mitigation** - Actions taken to lessen the severity of climate change by reducing greenhouse gas emissions and/or removing greenhouse gases from the atmosphere.

**Carbon footprint** - the amount of carbon dioxide released into the atmosphere as a result of the activities of a particular individual, organization or community.

**Carbon neutral** - The state of being carbon neutral refers to an organisations net greenhouse gas emissions being equal to zero. This is achieved through a combination of reducing emissions and purchasing carbon offsets to match the remaining emissions.

**Carbon sequestration** – The process of removal and storage of carbon (i.e. carbon dioxide) from the atmosphere in carbon sinks (such as forests, woody plants or soils).

**Gigawatt hours** - abbreviated as GWh, gigawatt hours are a unit of energy representing one billion (1 000 000 000) watt hours and is equivalent to one million kilowatt hours.

**Resilience** - The capacity to withstand negative impacts without compromising basic functions or fundamental identity.

## **15. Appendices**

### **Appendix 1: Legislative and Policy Framework**

#### **Global commitments**

At the Paris Climate Conference (COP21) in 2015, 195 countries including Australia committed to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

#### **Federal Government**

Under the Paris Agreement, Australia has committed to reduce greenhouse gas emissions by 26 to 28 percent below 2005 levels by 2030. Other initiatives undertaken by the Australian government to reduce emissions and adapt to climate change include:

- The Emissions Reductions Fund to provide incentives for emissions reductions activities across the economy;
- The Renewable Energy Target that aims for a target of 33,000 Giga Watt hours (GWh) of renewable energy by 2020; and
- The National Climate Resilience Adaption Strategy (2015) which sets out how Australia manages its climate risks.

#### **Victorian State Government**

The Climate Change Act 2017<sup>1</sup> is the primary legislation for climate change management in Victoria. The government has legislated a long-term target of zero net greenhouse emissions by 2050. Key aspects of the Act include:

7. Five yearly interim greenhouse emissions targets;
8. A review of the Climate Change Strategy every five years; and
9. Adaptation Action Plans for key systems that are either vulnerable to the impacts of climate change or essential to ensure Victoria is prepared.

The Act sits alongside other State government initiatives such as the Victoria's Climate Change Framework, Victoria's Climate Change Adaption Plan 2017 – 2020 and the Victorian Renewable Energy Targets (VRET).

The State government also introduced TAKE 2, a pledging program designed to help reduce greenhouse gas emissions, helping Victoria reach the target of zero net greenhouse emissions by 2050. The program, enacted in the Climate Change Act (2017), allows individuals, businesses, local government, educational institutions and community groups an opportunity to commit to keep the global temperatures under 2 degrees Celsius.

## Mornington Peninsula Shire

A key Strategic objective in Our Peninsula 2021: Council Plan 2017 – 2021 commits the Shire to: Plan for the mitigation of, and adaptation to climate change and maintenance of our global commitment to climate change. A major initiative to deliver this strategy is to develop the Climate Change Community Engagement Strategy (referred to as the Clean and Green Community Climate Change Plan).

The Climate Change Carbon Neutral Policy adopted in 2016, sets out how the Shire will achieve carbon neutrality by 2021. Key to this is seeking accreditation from the Federal Government's National Carbon Offset Standard – Carbon Neutral Program. One of the 6 key pillars to achieve carbon neutrality is community and stakeholder engagement. This commits the Shire to:

- A process of on-going, purposeful, participatory, inclusive and accessible community engagement on climate change to support community resilience.
- Encouraging and supporting community led initiatives that aim to work towards carbon neutrality through shared learning.

The Shire's Draft Health and Wellbeing Plan provides a Strategic approach for protecting and promoting the health and wellbeing of community members across the municipality. Theme 4 of this Plan recommends climate change actions to improve the health and wellbeing.

The Shire is committed to several agreements to strengthen our ability to address climate change. These are:

Title	Shire commitment	Lead organisation
Global Covenant of Mayors for Climate and Energy (previously called the Compact of Mayors)	A global co-coalition of Mayors and city officials pledging to: <ul style="list-style-type: none"><li>. reduce greenhouse gas emissions;</li><li>. track progress;</li><li>. prepare for the impacts of climate change.</li></ul>	International Council for Local Environmental Initiatives (I.C.L.E.I) – Local Governments for Sustainability
Environmental Upgrade Agreements	Facilitate and promote low interest loans for businesses to undertake environmental upgrades. Shire commitment till end of 2018.	Sustainable Melbourne Fund, supported financially by the Australian Renewable Energy Agency (ARENA). Legislated as part of the Climate Change Act.
TAKE 2	The Shire has pledged to work towards keeping the global temperatures increase under 2 degrees Celsius. The Shire will report on progress towards this aim every five years until 2045 starting in 2020.	Sustainability Victoria. TAKE 2 is legislated as part of the Climate Change Act 2017.

## **Appendix 2: Mornington Peninsula – Classifications of Community Engagement**

The Mornington Peninsula Shire has developed a Draft Community Engagement Community Engagement Guide to provide guidance to Council staff, contractors and consultants in the planning of activities to engage the community.

The Draft Guide is based on the Spectrum of Public Participation International Association for Public Participation (IAP2). This spectrum states that community engagement can take a number of different forms ranging from information dissemination to inspiring an individual or community to take action. The table below describes these levels of participation.

<b>Level of Participation</b>	<b>Goal</b>
<b>Inform</b>	To inform the community with balanced and objective information to assist them to understanding the problem, alternatives, opportunities and/or solutions. *
<b>Educate</b>	To educate the community to build capacity and/or change behaviours in response to emerging challenges.
<b>Consult</b>	To consult with the community to obtain feedback on the alternatives, and/or priorities. *
<b>Research</b>	To research the perspectives, values and/or ideas to understand targeted members of the community.
<b>Partner</b>	To partner with community to develop alternatives and/or preferred outcomes.
<b>Inspire</b>	To inspire the community through support and/or advice to deliver their own initiatives.

*\*Based on IAP2 Spectrum of Public Participation*



### Appendix 3:

#### Climate Change Community Engagement Strategy – Action Plan Assessment Tool

There are a range of projects that could be implemented to achieve the objectives of this Strategy. However, to determine the most effective projects the following assessment tool was developed. Each proposed action was assessed against the criteria below to determine an overall rating. Each criterion was scored out of 10 with a maximum score of 150.

Scores rated below 75 are rated Low (L)

Scores between 76 – 110 are rated Medium (M)

Scores between 111 – 150 are rated High (H)

#### Scoring criteria

Financial Cost to Council	Fin. Cost to community	Ability to attract funding	Emissions reductions	Biodiversity improvements	Water efficiencies	Carbon storage	Improved physical health and wellbeing	Improved social / emotional health and wellbeing	Improved emergency response	Community empowerment	Impact of risk reduction	Ease of implementation	Increased understanding of climate change and sustainable behaviour	Climate Change leadership and innovation
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#### Summary of scores

Key Delivery Area	Action	Overall average rating	Priority
Area 1: Empowering our Community	Implement a Sustainable Ambassadors Program to train and mentor community members to develop and deliver sustainability initiatives within their communities.	105.67	M
Area 1: Empowering our Community	Deliver the Climate Ready community engagement program to educate and provide practical assistance to assist the community to prepare for the impacts of climate change.	103.33	M
Area 1: Empowering our Community	Assistance to community to prepare Climate Ready Action plans using the Climate Ready website ( <a href="http://www.climateready.com.au">www.climateready.com.au</a> ).	101.33	M
Area 1: Empowering our Community	Expand the Eco Living Display Centre school's education program to offer water, waste, energy and climate change incursions to schools. Focus on current science, positive initiatives and practical actions.	96.67	M
Area 1: Empowering our Community	Provide advice to community groups, individuals and businesses engaged in climate change initiatives.	88.67	M
Area 1: Empowering our Community	Deliver training to support teachers to foster student leaders to develop and deliver climate change projects within schools.	84.33	M
Area 1: Empowering our Community	Participate in the refinement of How well are we adapting? web-based tool to measure how well the Shire is preparing, and helping the community to prepare for, climate change impacts.	84	M
Area 1: Empowering our Community	Ensure all Shire community field workers are trained to care for themselves and their clients in extreme weather events.	81	M
Area 1: Empowering our Community	Develop Climate Ready videos to encourage residents to prepare for emergencies e.g. bushfire, heatwave, flash flooding and storm events.	80.67	M
Area 1: Empowering our Community	Work with the Environmental Protection team through the Best Bites Program to recognise outstanding environmental achievements in businesses.	80	M

<i>Area 1: Empowering our Community</i>	Establish Shire Eco Team to encourage sustainable behaviours with Shire staff and their families.	80	M
<i>Area 1: Empowering our Community</i>	Offer advice to residents on energy efficiency and renewable energy e.g. through on-line information and personal assistance.	76.67	M
<i>Area 1: Empowering our Community</i>	Work across Shire teams to develop a Communication Plan to set out program delivery, timing, marketing and branding of the Shire's climate change programs.	76.33	M
<i>Area 1: Empowering our Community</i>	Promote the State Governments TAKE 2 pledge program, aiming to reach zero net emissions by 2050, and keep the global temperature rise to under 2 degrees.	62.67	L
<i>Area 1: Empowering our Community</i>	Promote the Witness King Tides program, a community photographic project to help visualise the impacts of sea level rise by photographing and monitoring kind tide events. ( <a href="http://www.witnesskingtides.org">www.witnesskingtides.org</a> )	56.33	L
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Promote sustainable house design through participating in Sustainable House Day, and encouraging residents to participate in Sustainable House Day.	90.6	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Continue to facilitate Environmental Upgrade Agreements (EUA's) for businesses to access low interest, long terms loans for energy, water and waste initiatives.	89.75	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Provide opportunities for resident to learn about sustainable design from experts e.g. through the Alternative Technology Association's program Speed Date a Sustainability Expert.	87	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Offer personal free advice to residents and businesses on energy efficiency and renewable energy. Extend program to work in conjunction with Shire Planners and to offer consultations in Shire libraries.	86	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Advocate to State Government and other organisations for Ecologically Sustainable Design in new builds and renovations.	78.4	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Develop an Environmentally Sustainable Design (ESD) Policy and Guidelines for planners to assist residents integrate ESD into new builds or building upgrades.	77.2	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Offer subsidies for sustainable retrofits to improve household energy efficiency (e.g. external awnings, fans and draught proofing).	76.5	M
<i>Area 2: Improving energy efficiency and generation of local renewable energy</i>	Conduct Solar / Battery Group Buy.	76.6	M
<i>Area 3: Improving water efficiency</i>	Support the delivery of the Victorian Government's program to promote residential water use 'Target 155', encouraging residents to keep water use below 155 litres per person per day.	91.75	M

<i>Area 3: Improving water efficiency</i>	Work collaboratively with South East Water, Department of Environment, Land, Water and Planning and the agriculture sector to investigate options for large-scale use of recycled water from the eastern outfall pipeline.	88.75	M
<i>Area 3: Improving water efficiency</i>	Design and deliver education workshops and materials to promote: <ul style="list-style-type: none"> <li>• water efficient behaviours, fixtures and fittings;</li> <li>• the use of raingardens;</li> <li>• improved maintenance of septic tanks and encouraged connection to sewer where available; and</li> <li>• encourage water re-use at key townships across the Shire.</li> </ul>	81	M
<i>Area 3: Improving water efficiency</i>	Introduce new standards for food businesses to have a mandatory waste water / cleaner sink on their premises.	78	M
<i>Area 3: Improving water efficiency</i>	Advocate to State government for increased funding for stormwater and recycled water infrastructure to prevent and mitigate the impacts of flooding and reduce the demands of potable water supply during periods of drought.	78	M
<i>Area 3: Improving water efficiency</i>	Deliver an education, monitoring and enforcement program for small to medium size industrial premises. This program targets waste water management and prevention of stormwater contamination.	69	L
<i>Area 4: Supporting low emissions transport</i>	Implement and review the Shire's Sustainable Transport Strategy - Adopted strategy	150	H
<i>Area 4: Supporting low emissions transport</i>	Work with the Transport Community Action Advisory Group to advocate for improved public transport on the Peninsula, including a State Government Public Transport Review. - Adopted action	150	H
<i>Area 4: Supporting low emissions transport</i>	Implement the Pedestrian Access Strategy and the Principle Pedestrian Network to encourage walking	150	H
<i>Area 4: Supporting low emissions transport</i>	Adopt the Shire's Bicycle Strategy, RideSafe	150	H
<i>Area 4: Supporting low emissions transport</i>	Continue to support Peninsula Transport Assist (PTA) Inc., a volunteer led initiative to provide free transport to vulnerable community members. - Council supported initiative	150	H
<i>Area 4: Supporting low emissions transport</i>	Continue to promote and support sharing of community buses - Council supported initiative	150	H
<i>Area 4: Supporting low emissions transport</i>	Promote ride sharing services in the light of recent Commercial Passenger Vehicle Reforms - Included in Sust. Transport Strategy	150	H
<i>Area 4: Supporting low emissions transport</i>	Promote walk / cycle paths (e.g. Smart phone app development and printed material)	94.43	M
<i>Area 4: Supporting low emissions transport</i>	Seek funding or partnerships to install additional charging stations.	92.29	M
<i>Area 4: Supporting low emissions transport</i>	Progress the Roadside Trails & Equestrian Strategy to encourage the recreational use of key trails within the peninsula.	86.57	M

Area 4: Supporting low emissions transport	Advocate to State Government for improved public transport and walking/cycling options.	84.29	M
Area 4: Supporting low emissions transport	Review existing EV charging stations, identify gaps and widely promote network. Utilise <a href="http://www.plugshare.com">www.plugshare.com</a> and <a href="http://www.chargepoint.com.au">www.chargepoint.com.au</a>	83	M
Area 4: Supporting low emissions transport	Advocacy to Federal and State governments for the introduction of incentives to increase the uptake of Electric vehicles	78.86	M
Area 5: Reducing waste	Continue to implement the recommendations from the Shire's Waste and Resource Recovery Strategy 2015 - Council adopted	150	H
Area 5: Reducing waste	Complete and review trial of agricultural silage wrap recycling - Already underway	108.6	M
Area 5: Reducing waste	<ul style="list-style-type: none"> <li>• Work in collaboration with the Shire's Events team to develop a Shire Sustainable Events Policy and Guidelines for Shire and external events.</li> <li>• Develop a Green Events resource kit and signage for event managers.</li> <li>• Conduct an events waste audit before and after the introduction of Guidelines and review the program based on audit findings.</li> </ul>	99	M
Area 5: Reducing waste	<ul style="list-style-type: none"> <li>• Conduct composting and worm/farming workshops at Community Centres and other venues across the Peninsula.</li> <li>• Assist Community Kitchens to establish and maintain composting.</li> <li>• Offer 1000 subsidised compost bins / worms farms and information for residents.</li> <li>• Conduct food waste campaign to reduce household food including education on sustainable shopping practices, food storage and re-use.</li> <li>• Develop an on-line Green Guide detailing local sustainable options for waste, water, energy and transport.</li> </ul>	92.25	M
Area 5: Reducing waste	Annual 'War on Waste' Expo.	79.8	M
Area 5: Reducing waste	<ul style="list-style-type: none"> <li>• Bin audit and review of best practice public place recycling.</li> <li>• Based on audit and review, conduct needs analysis to identify areas for public place recycling.</li> <li>• Install recycling bins and educational signs in high visitation Shire reserves and buildings.</li> </ul>	76.4	M
Area 5: Reducing waste	<ul style="list-style-type: none"> <li>• Advocate for the passing of State government legislation banning single use plastic bags.</li> <li>• Work with retailers and Chambers of Commerce to offer alternatives to plastic bags.</li> <li>• Conduct an education program to raise awareness of benefits of phasing out plastic bags.</li> </ul>	77.6	M
Area 5: Reducing waste	Investigate suitable incentives for businesses to reduce waste. E.g. Reduction of food licence fees.	72.8	L
Area 5: Reducing waste	Install water stations at key recreational and shopping precincts.	72.4	L

<i>Area 5: Reducing waste</i>	Research new technologies and investigate opportunities to reduce commercial waste	72	L
<i>Area 5: Reducing waste</i>	Present display and education material at events	70	L
<i>Area 5: Reducing waste</i>	Develop interactive waste education display for events	68.4	L
<i>Area 5: Reducing waste</i>	Obtain portable water stations	58.25	L
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Develop and adopt a Biodiversity Conservation Plan	150	H
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Develop a shared understanding and partnership with traditional owners and local Registered Aboriginal Parties (RAP) to foster cultural land management practices - Commitment	110	H
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Work collaboratively with other organisation to: - promote adaptive agriculture; - promote biodiversity conservation; - raise awareness of the impacts of climate change on agriculture; - promote activities that retain soil carbon.	106	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Continue to support and train volunteers in managing biodiversity in our bushland reserves.  Prepare a training manual for volunteers to complement existing practical training,  Continue events to recognise and celebrate work of groups.  Increase staff resourcing to expand support for Friends groups	102	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Support Landcare with their biolinks program and bushland management program.  Investigate incentive schemes to engage additional private landowners.  Increase biodiversity protection works on Shire land.	100.25	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Implement the actions from the Shire's Agricultural audits and associated reports including actions relating to climate change adaptation.	92.75	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Provide a rebate for landholders with land conservation covenants (dollars per hectare covenanted)	90.25	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Increase public participation in biodiversity protection through a recruitment campaign for local Friends groups volunteers	90	M

<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Continue to build on the Shire’s current citizen science programs such as Powerful Owl monitoring. Partner with other organisations to promote community involvement in established biodiversity engagement/citizen science programs (such as Birdlife Australia’s Aussie Backyard Bird Count, Melbourne Water’s Frog Census app) and hold biodiversity engagement events that align with national and international days like World Wetlands Day, International Biodiversity Month.	89.5	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Provide one-to-one advice to landholders seeking to undertake biodiversity conservation works on their land.  Promote the availability of this service and track and monitor uptake of the service.	89	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Audit 10% of rebate recipients annually against set criteria.  Review criteria (after 3 years) to develop more targeted guidelines and consider refinement of eligibility criteria to align with biodiversity and sustainable land management objectives.	86.25	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Investigate suitable support opportunities for property owners in areas of mapped biodiversity significance that align with their needs. E.g. Grant scheme that funds a proportion of material costs for biodiversity protection.  Subsidising attendance of commercially run land management courses and / or partnering with other agencies to provide land management courses.  Provision of technical advice.	84.25	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Conduct cost / benefit analysis for carbon sequestration options on the Peninsula in natural and agricultural systems.	82.75	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Develop a better range of educational resources to provide practical guidance for landowners on biodiversity conservation and sustainable land management practices, building on the Common Ground Facts Sheets. Key topics to include managing environmental weeds, pest animals, biodiversity and fire risk, understanding vegetation types, habitat value.  Continue to provide support to the Mornington Peninsula Landcare Network to deliver their Biolinks Plan.	80.5	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Provide a welcome pack to new land owners in target areas providing information on local biodiversity conservation and sustainable land management practices  Utilise other opportunities to provide this pack to landholders, e.g. via request on the website, at one-to-one visits, through targeted campaigns or as part of the incentives programs.	78.25	M
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Deliver a dedicated campaign to promote the unique natural environments of the Mornington Peninsula, focussed on shire-managed bushland reserves, to provide more opportunities for our community to connect with and spend time in nature locally.	73	L
<i>Area 6: Protecting natural assets and increasing carbon storage</i>	Improve biodiversity information on our website – give it more prominence, improve navigation, expand content and promote.	68.5	L