



Ordinary Council Meeting

**Addendum to Item: 12.2.1**

**Attachment 1 and 2**

**Harvey Council Chamber**

**Ordinary Council Meeting: Tuesday, 23 August 2022**

**4PM**

<b>Subject:</b>	<b>12.2.1 Climate Change Declaration</b>
<b>Proponent:</b>	<b>Shire of Harvey</b>
<b>Location:</b>	<b>Shire of Harvey</b>
<b>Reporting Officer:</b>	<b>Waste and Sustainability Officer</b>
<b>Authorising Officer:</b>	<b>Director of Infrastructure Services</b>
<b>File No.:</b>	<b>HS/V/006</b>
<b>Attachments:</b>	<ol style="list-style-type: none"> <li>1. WALGA Climate Change Declaration [12.2.1.1 - 6 pages]</li> <li>2. Shire of Harvey Climate Change Corporate Mitigation Action Plan [12.2.1.2 - 22 pages]</li> </ol>

*The following additional information is provided in regard to Item 12.2.1*

**ATTACHMENT 1**

**Page Number:** 4

**Section:** Progress to Date

**Amendment:** Addition of the dot point, “Committing to the Power Purchase Agreement (PPA) with WALGA and Synergy to have all major Shire buildings powered by renewable energy by 2024 - 2025”.

**Page Number:** 5

**Section:** Commitments

**Amendment:** Dot point seven changed from:

“Work with key stakeholders within our community to ensure achievement of the actions set out in our Climate Change Corporate Mitigation Action Plan”

To

“Work with key stakeholders to ensure achievement of the actions set out in our Corporate Mitigation Action Plan.”

**ATTACHMENT 2**

**Page Number:** 2

**Section:** Acknowledgement of Country

**Amendment:** Changed from:

“The Shire of Harvey acknowledges the Traditional Owners and custodians of the Gnaala Karla Boodja land and we pay our respects to their Elders past, present and emerging”

To

“The Shire of Harvey acknowledges the traditional custodians of the land and their continuing connection to land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.”

**Page Number:** 10

**Section:** Approach to Climate Change

**Amendment:** Dot point seven changed from:

“Work with key stakeholders within our community to ensure achievement of the actions set out in our Climate Change Corporate Mitigation Action Plan”

To

“Work with key stakeholders to ensure achievement of the actions set out in our Corporate Mitigation Action Plan.”

**Page Number:** 11

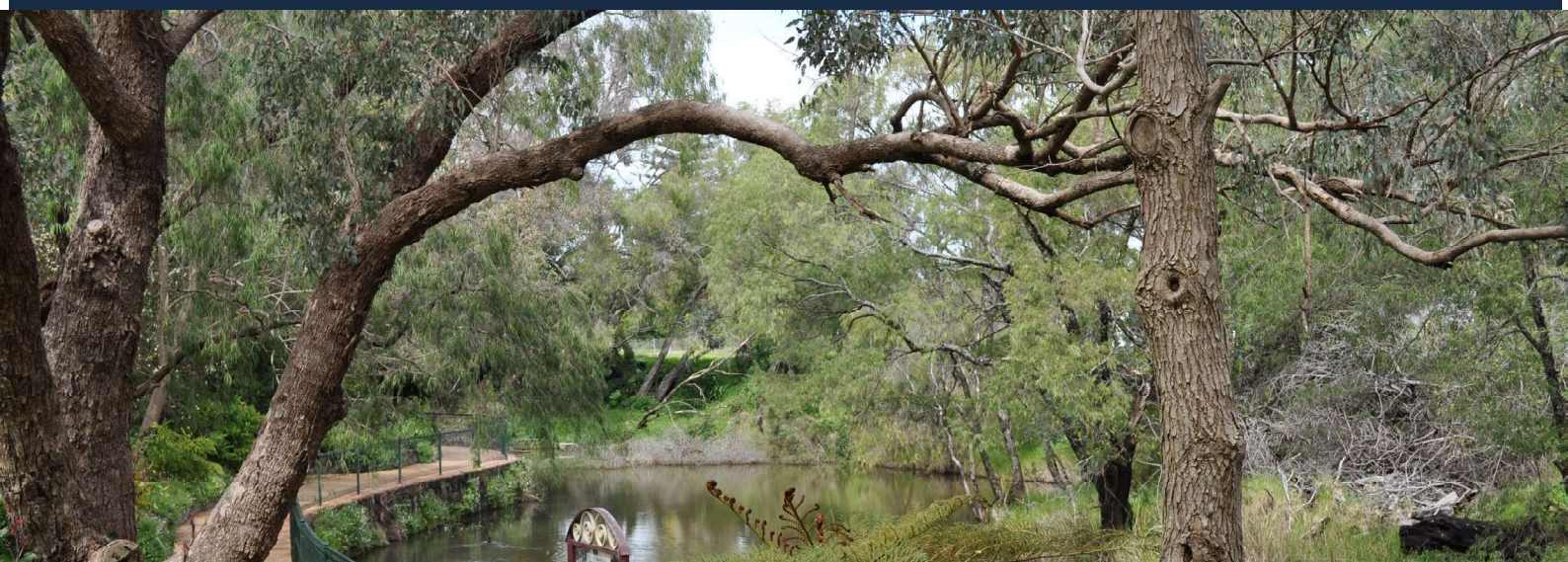
**Section:** In order to respond to the impacts of climate change, the Shire of Harvey has already taken action by:

**Amendment:** Addition of the dot point, “Committing to the Power Purchase Agreement (PPA) with WALGA and Synergy to have all major Shire buildings powered by renewable energy by 2024 - 2025”.



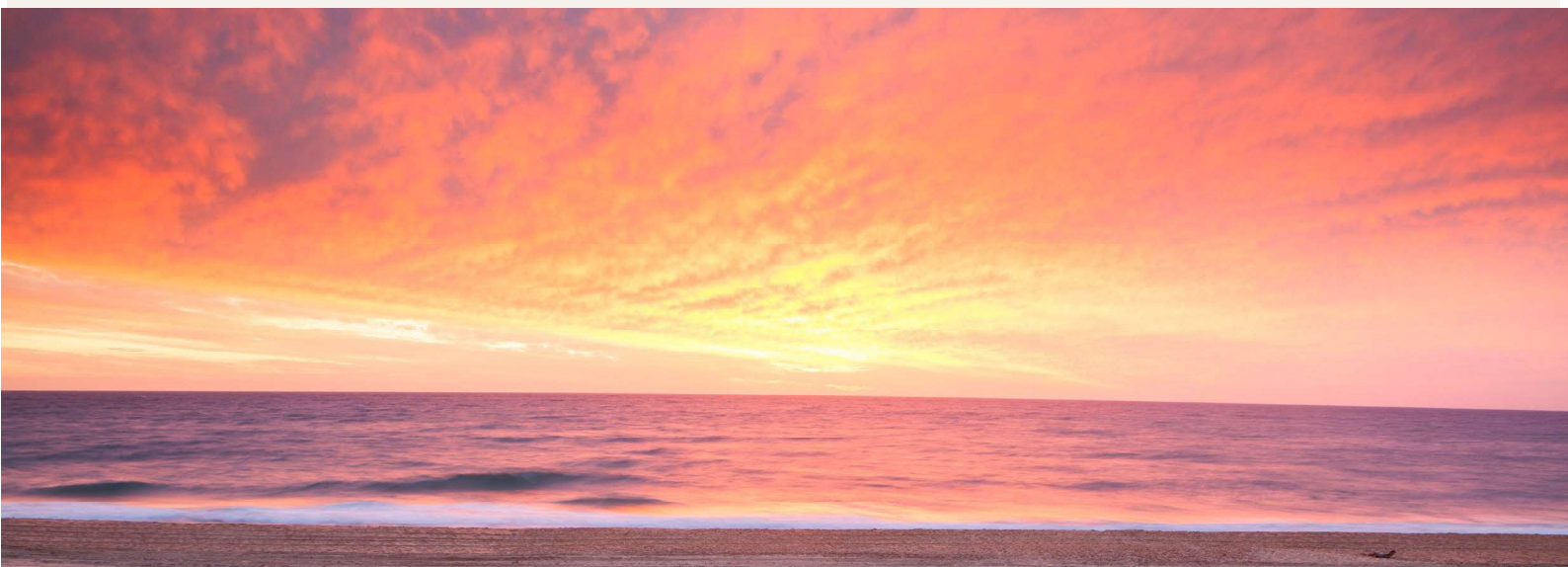
**SHIRE OF  
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# Shire of Harvey Climate Change Corporate Mitigation Action Plan



## Acknowledgement of Country

The Shire of Harvey acknowledges the traditional custodians of the land and their continuing connection to land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures; and to Elders both past and present.



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## Executive Summary

The impacts of climate change are already being felt by communities around the world, including increasing temperatures, longer droughts, more frequent and intensive natural disasters such as heatwaves and bushfires, and sea level rise, and associated increases in coastal erosion and inundation. With these impacts projected to further increase over the coming years and decades, our Shire needs to take action now to safeguard our future.

The risks associated with climate change are becoming more important to Local Governments, and the need for Local Governments to respond to, and manage the impacts of climate change has never been greater. With Local Governments on the front line of addressing climate change we have an important role to play. To establish our support for climate change action we have signed a Climate Change Declaration.

As outlined in our Climate Change Declaration we recognise that climate change will continue to have a significant effect on the Western Australian environment, society and economy. We have committed to addressing climate change within our Local Government area to minimise these impacts through emission reduction, water conservation, waste diversion, coastal renourishment and adaptation, and implementing sustainable development practices.

The Shire of Harvey acknowledges the importance of taking action, and as such is committed to finding practical ways to address climate change risks and impacts within our Shire. We have developed a Climate Change Corporate Mitigation Action Plan which brings together the actions that we will undertake to tackle climate change, build resilience and minimise the vulnerability of our area.

Our overall objective is to demonstrate climate leadership by reducing our corporate emissions and build the Shires' resilience to the effects of climate change.

Acting on and responding to climate change is an ongoing process, and these Action Plans will be reviewed and updated regularly to reflect changing circumstances and emerging information.

### **Purpose of this document**

The purpose of this document is to establish corporate mitigation actions for our Shire. Through the implementation of these actions we can contribute to reducing greenhouse gas emissions within our operations, to help attempt to avoid the future impacts of climate change beyond what is already projected.

## Context

### Climate Science

International scientific consensus is that climate change is occurring, and it is driven by anthropogenic (human) causes, with human activities having a profound impact on the concentration of greenhouse gas emissions since the start of the industrial revolution. Ultimately, these activities, such as the burning of fossil fuels, land clearing and agriculture, have increased greenhouse gas concentrations in the atmosphere, leading to changes in the climate system over long periods of time.

The Intergovernmental Panel on Climate Change (IPCC) is an international body responsible for assessing the science related to climate change. IPCC assessments provide a scientific basis for governments at all levels to develop climate related policies, and they are fundamental inputs to negotiations at the United Nations Climate Conferences and the negotiation of international climate agreements. The IPCCs latest report, the Fifth Assessment Report, found that:

*“Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.*

*Most aspects of climate change will persist for many centuries even if emissions of CO<sub>2</sub> are stopped.”*

The IPCC has also found:

*“It is extremely likely [95–100%] that human influence has been the dominant cause of the observed warming since the mid-20th century.”*

### Climate Scenarios

In order to make projections of future climate change, the scientific community develop climate models, using advanced computer simulations, for a range of different greenhouse gas emissions scenarios (i.e. projections of what the global greenhouse emissions may be in future years). These scenarios are used to inform policy and decision makers to plan for the future.

In the Fifth IPCC Assessment, a set of four possible scenarios, also known as Representative Concentration Pathways (RCPs), were proposed. These RCPs represent possible pathways based on global atmospheric greenhouse gas

emissions concentrations and predict how concentrations of greenhouse gases in the atmosphere will impact the climate.

- **Very low emissions scenario** – based on the IPCC’s RCP2.6. Under this scenario, significant collaborative effort will be made to drive decarbonisation and lower emissions, which will result in a temperature increase of 1°C, a 0.4m sea level rise and a minor increase in extreme weather events (by 2081-2100, relative to 1986-2005).
- **Low emissions scenario** – based on the IPCC’s RCP4.5. Under this scenario, collaborative efforts will be made to drive decarbonisation and lower emissions, which will result in a temperature increase of 1.8°C, a 0.47m sea level rise and a moderate increase in extreme weather events (by 2081-2100, relative to 1986-2005).
- **High emissions scenario** – based on the IPCC’s RCP6.0. Under this scenario, minimal efforts will be made to drive decarbonisation and lower emissions, which will result in a temperature increase of 2.2°C, a 0.48m sea level rise and a moderate increase in extreme weather events (by 2081-2100, relative to 1986-2005).
- **Very high emissions scenario** – based on the IPCC’s RCP8.5. Under this scenario, very low efforts will be made to drive decarbonisation and lower emissions, which will result in a temperature increase of 3.7°C, a 0.63m sea level rise and a large increase in extreme weather events (by 2081-2100, relative to 1986-2005).

## Projected Climatic Changes

In the 20<sup>th</sup> century the impacts of climate change have become increasingly visible, with observed impacts including increases in global average air and ocean temperatures, rising global sea level, long-term sustained widespread reduction of snow and ice cover, and changes in atmospheric and ocean circulation and regional weather patterns, which influence seasonal rainfall conditions.

These changes threaten both human and natural systems, both directly and also through increased extreme weather events, such as heat waves, cyclones and other natural disasters, coastal inundation due to sea level rise, and disruptions to rainfall patterns.

In Australia, the 2018 Bureau of Meteorology State of the Climate Report (CSIRO and Australian Government Bureau of Meteorology 2018) noted that Australia has experienced increases to sea and air temperatures, sea level rises and ocean

acidification, along with observed declines in rainfall amounts in the southwest and southeast of Australia.

Australia is the driest inhabited continent on earth, and even in the absence of climate change is characterised by variability and extremes. With the impacts of climate change projected to place additional stress on our natural and human systems, there is an urgent need to address climate change.

For the Shire of Harvey projected changes to our climate in the future include:

- Further increase in temperatures, with more extremely hot days and fewer extremely cool days;
- More heat waves that will be longer and hotter;
- More frequent, extensive, intensive and longer-lasting marine heatwaves;
- Ongoing sea level rise;
- Further warming and acidification of the oceans;
- A decrease in cool-season rainfall across southern Australia, including the southwest of WA;
- More frequent, longer and more intense droughts across southern Australia, including the southwest of WA;
- More intense heavy rainfall throughout Australia, particularly for short-duration extreme rainfall events (storms);
- An increase in the number of high fire weather danger days and a longer fire season;
- Through a combination of many of these impacts, changes to biodiversity including increased species extinction.

These changes will have impacts on our environment, our infrastructure and assets, and our communities.

## **Role of Government**

As a signatory to the Paris Agreement under the United Nations Framework Convention on Climate Change and the United Nations Sustainable Development Goals (SDGs), Australia has committed to taking action on climate change and to ensuring that mitigation and adaptation action is equitable and consistent with the aims of the SDGs. The Paris Agreement expressly recognises the importance of engagement at all levels of government. As such, the management of climate-change risks is spread across the three tiers of government: Commonwealth, State and Territory and Local.

In 2012, the Councils of Australian Governments (COAG) formally agreed on the roles and responsibilities for climate-change adaptation in Australia.

The Commonwealth Government is responsible for:

- Managing climate change science and national adaptation research to allow Australia to effectively adapt to the impacts of climate change;
- Providing leadership on national adaptation reform, and collaborating with States and Territories in setting and implementing national priorities and regional priorities;
- Managing climate change risks and impacts across the Commonwealth's portfolio of assets and programs; and
- Maintaining a strong, flexible economy and social safety net that will help Australia adapt to climate change impacts by ensuring resources are available to respond to climate change and can be deployed efficiently.

The State and Territory Governments are responsible for:

- Providing local and regional science and information;
- Managing climate change risks and impacts across State and Territory assets and programs;
- Working with the Commonwealth to implement the national adaptation reform; and
- Encouraging climate resilience and adaptive capacity.

Local Governments are on the frontline in addressing climate change impacts and have a critical role to play in ensuring that mitigation and adaptation responses are suitably tailored to the specific risks in our area, and that our local communities and stakeholders are consulted and involved in our efforts. We have the capacity to implement planning and development measures that reduce the impacts of climate change on all aspects of the community, and therefore have more hands-on responsibilities than the Commonwealth Government and complementary responsibilities to State and Territory governments.

Local Governments are responsible for:

- Administering relevant state and territory and/or Commonwealth legislation to promote adaptation as required including the application of relevant codes;
- Managing risks and impacts to public assets owned and managed by Local Governments;
- Managing risks and impacts to Local Government service delivery;
- Collaborating across Local Governments and with State and Territory Governments to manage risks of regional climate change impacts;
- Ensuring policies and regulations under their jurisdiction, including local planning and development regulations, incorporate climate change considerations and are consistent with State and Commonwealth Government adaptation approaches;

- Facilitating building resilience and adaptive capacity in the local community, including through providing information about relevant climate change risks;
- Working in partnership with the community, locally based and relevant NGOs, business and other key stakeholders to manage the risks and impacts associated with climate change; and
- Contributing appropriate resources to prepare, prevent, respond and recover from detrimental climatic impacts.

### **Key Emissions Sources**

Our Shires' carbon emissions comprise of both corporate and community emissions. Corporate emissions come from activities or sources that are owned or controlled by the Shire, whereas community emissions are all the other emissions produced within our area including those from our residents and businesses. Across all Local Governments in Australia, community emissions typically represent around 99% of Local Government emissions<sup>1</sup>.

Our main sources of corporate emissions include electricity and natural gas usage in our municipal offices, leisure centres and community facilities, electricity consumption from our street lighting, fuel consumption from our fleet vehicles, and emissions from the decomposition of waste at the Richardson Road Waste Management Facility.

Our main sources of community emissions include residential and commercial natural gas and electricity consumption primarily for lighting and heating, fuel consumption from private vehicles, agricultural emissions from livestock and fertilisers, changes in land use, and industrial processes.

### **Adaptation and Mitigation**

The impacts of climate change will impact the Shire of Harvey in a variety of ways. These impacts are predicted to increase in severity and frequency in the future, which will pose increasing risks to our community, environment, assets and infrastructure. In order to respond to these impacts there are two main categories of climate change response: adaptation and mitigation, both of which are essential, and equally as important in addressing climate change.

- 1. Climate change mitigation** involves actions that are intended to reduce our greenhouse gas emissions to minimise the severity of climate change or enhance the sinks for these emissions. For example, mitigation actions may include switching to renewable forms of energy such as wind and solar, and implementing energy efficiency initiatives, and supporting emission sinks such as investing revegetation and or modified landscape management (e.g. fire management) to improve carbon capture.

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<sup>1</sup> Beyond Zero Emissions, Australian Local Government Climate Review. 2018.

- 2. Climate change adaptation** consists of actions undertaken to reduce the consequences of the physical impacts of climate change, as well as to harness any opportunities as a result of these actions. Through adaptation actions we will become more prepared and able to adapt to the impacts of climate change, reducing our vulnerability. For example, adaptation actions may include building seawalls to protect infrastructure from erosion, raising the height of houses in flood prone areas, or behaviour change initiatives, such as monitoring vulnerable segments of the community during heatwaves.

Mitigation addresses reducing the causes of climate changes (greenhouse gas emissions), whereas adaptation addresses the impacts of climate change and associated risks and how we respond to them. For effective global mitigation it is important for everyone in the community, all businesses, and all levels of government to contribute to reducing emissions. Therefore, an effective climate change response requires both adaptation and mitigation actions to build the resilience of our Shire to the impacts of climate change and help avoid worst case climate change scenarios.

This plan outlines Shire relevant adaptation and mitigation actions that we have committed to at the corporate level.

## Approach to Climate Change

The Shire has signed a Climate Change Declaration. As part of this Declaration we have committed to:

- Implementing the actions outlined in the Shires' Corporate Mitigation Action Plan.
- Develop a Corporate Adaptation Action Plan.
- Implementing a Fleet Offset Program.
- Reduce corporate emissions in line with targets set out in key National and International agreements.
- Support WALGA to work with State and Federal Government to ensure achievement of greenhouse gas emissions reduction targets as set out in key National and International agreements.
- Support WALGA to work with State and Federal Government to implement key actions and activities for climate change management at a local level.
- Work with key stakeholders to ensure achievement of the actions set out in our Corporate Mitigation Action Plan.

- Assess the locally specific risks associated with climate change and implications for our services, and identify areas where appropriate mitigation and adaptation strategies should be developed and implemented.
- Ensure that, at appropriate review intervals, future climate change policies and strategies are reviewed and amended to incorporate the latest climate science, and to reflect the climate change management priorities and progress achieved to date.
- Monitor the progress of our mitigation and adaptation actions.

In order to respond to the impacts of climate change, the Shire of Harvey has already taken action by:

- Developing a Corporate Mitigation Action Plan.
- Becoming an endorsed Waterwise Council 2022.
- Conducting dune renourishment.
- Diversion of organics from landfill by introduction the 3 kerbside bin FOGO system.
- Developing of a Fleet Offset Program.
- Implementing WSUD principles in Shire landscaping works.
- Working as part of the Peron Naturaliste Partnership (PNP) to develop a CHRMAP for the Shire's coastline and the Collie River.
- Committing to the Power Purchase Agreement (PPA) with WALGA and Synergy to have all major Shire buildings powered by renewable energy by 2024/25.

We are committed to taking action at the corporate level to mitigate against, and adapt to, climate change, and hence have developed our Action Plans.

We use the following principles to assist our climate change action planning:

- Ambitious – Our goals and actions work towards an ambitious vision.
- Inclusive – We involve multiple departments, stakeholders and communities in planning and implementation.
- Fair – We seek solutions that equitably address the risks of climate change and share the costs and benefits of action across the Shire.
- Comprehensive and integrated – We aim to coherently undertake actions across a range of sectors within the Shire, as well as supporting broader regional initiatives and the realisation of priorities of higher levels of government when possible and appropriate.
- Relevant – Our actions seek to deliver local benefits and support local development priorities.
- Actionable – We propose cost-effective actions that can realistically be implemented.
- Evidence-based – Our action planning reflects scientific knowledge and local understanding, and uses assessments of vulnerability and emissions and other empirical inputs to inform decision-making.

- Transparent and verifiable – We follow an open decision-making process, and set actions that can be measured, reported, verified, and evaluated.

When developing our actions, we also seek to adopt the following practices:

- Opportunity – Actions provide co-benefits to the Local Government's broader objectives.
- Resourcing – We have the appropriate level of resourcing.
- Implementation – Actions are integrated into the Local Government's existing activities.
- Flexibility and adaptability – Actions are adaptable and flexible.
- Evaluation and monitoring – Implementation of actions can be effectively evaluated and monitored.

## Stakeholder Engagement

Stakeholder engagement ensures that the needs of all stakeholders, both internal and external, are considered in organisational goal setting and strategy development. As such, the Local Government believes that effective consultation is critical to the success of climate adaptation and mitigation. Therefore, in order to evaluate the effectiveness and understand the viability of the Local Government's response to climate change, the Local Government engages with both internal and external stakeholders.

Obtaining stakeholder input and understanding stakeholder views on our climate change response will also help us to more effectively design and embed actions within our Shire. We will also use stakeholder engagement as part of our monitoring process to assess the effectiveness of our action. We will conduct the following stakeholder engagement activities:

- Consult with elected members. Obtain execution and elected member sign off on our climate change plans.
- Conduct community meetings/forums/workshops.
- Engage with other Local Governments within our region to share learnings and progress regional actions.
- Engage with WALGA and other organisations to remain informed, and to contribute to discussions on climate change management at the Local Government level.

## Evaluation and Prioritisation of Mitigation Actions

To select mitigation actions that will bring about the greatest reduction in emissions, while being achievable for our Shire we assessed a long list of corporate mitigation actions against a number of criteria, which enabled us to identify those that will provide the best return on our investment.

The following criteria were used as part of the assessment process:

- Scale of investment needed
- Scale of potential emission reductions
- Equity implications (benefits and costs to various stakeholders)
- Implications, if any, regarding climate change risks that various stakeholders might be exposed to as a consequence of the action
- Complexity
- Human resources available to implement action
- Level of funding required
- Timeframe for implementation

Each action was assessed against the criteria and assigned a score of either Low, Medium or High. Where it was identified that we have the resources available to execute a particular action, and that the action will result in our desired outcomes, these were selected for inclusion in our Corporate Mitigation Action Plan.

## Actions

The Shire of Harvey has identified the following corporate mitigation related actions:

Category	Action
Advocacy/Education	Climate change data measuring and reporting.
Buildings & infrastructure	Retrofit local government buildings with energy efficient technologies.
Buildings & infrastructure	Energy monitoring.
Buildings & infrastructure	Increase the number of solar panels on local government buildings.
Buildings & infrastructure	Green building options for new local government owned buildings and infrastructure.
Buildings & infrastructure	Ecologically Sustainable Development design principles and energy efficiency criteria for new and refurbished local government facilities.

Category	Action
Buildings & infrastructure	Energy efficient street and park lighting.
Buildings & infrastructure	Energy efficient lighting, heating and air conditioning in local government owned buildings.
Energy	Energy audits for local government owned buildings and other assets.
Energy	Replacing gas and diesel powered facilities and appliances with electric alternatives in local government owned buildings.
Energy	Procurement of renewable energy alternatives.
Energy	Carbon offsets.
Policies/Planning	Revising the asset management policy to take climate change impacts into consideration and incorporate evaluation of most energy-efficient and/or low carbon technologies.
Policies/Planning	Sustainable planning policy, with the inclusion of measures to reduce carbon emissions of new buildings and infrastructure.
Policies/Planning	Town planning scheme amendments to allow zoning concessions for sustainable design.

Category	Action
Policies/Planning	Street Lighting Policy.
Policies/Planning	Policies to specify that energy efficient lighting, heating and air conditioning must be installed in new developments.
Policies/Planning	Inclusion of climate change mitigation considerations into policies/procedures/standards and other documents.
Policies/Planning	Including climate change related risks in Risk Management Framework.
Policies/Planning	Capital works program to increase energy efficiency, renewable energy, and batteries, in local government buildings and assets.
Policies/Planning	Develop a Water Sensitive Urban Design policy for works within the Shire.
Transport	Researching the potential of replacing existing fleet vehicles with electric vehicles.
Transport	Implement a Fleet Offset Program.
Transport	Preference hybrid vehicles in the procurement of fleet vehicles.
Waste	Kerbside waste minimisation strategy.

Category	Action
Waste	Organic waste diversion.
Water	Water meters.
Water	Water saving measures in public toilets and other public buildings.
Water	Passive irrigation techniques on local government owned land.
Water	Water consumption monitoring at local government assets.
Water	Water saving equipment in local government buildings.

## Communication

It is important for our Shire to communicate what we are doing in relation to climate change mitigation to our employees and community to obtain support for our actions, and to share our successes and challenges.

Internally we will:

- Share resources on our mitigation actions via our intranet.
- Include communications within internal newsletters.
- Establish an internal working group.

Externally we will:

- Communicate what we are doing through our website.
- Share good news stories in our local newspaper.

## Monitoring and Evaluation

Having a formal, periodic process in place for monitoring and evaluating our Action Plans is fundamental to understanding our progress in addressing climate change, and the effectiveness of our actions, and will assist us in guiding future decisions. Monitoring and evaluation of our Action Plans will also generate learning and idea creation opportunities in relation to climate change which will help to improve the design and delivery of future climate change related policies, plans and activities. It is our aim that, through this ongoing monitoring and evaluation process, we will embed climate change mitigation considerations into our business as usual processes.

To track the effectiveness of our Corporate Mitigation Action Plan, we will measure our emissions and energy consumption, and conduct monitoring and assessment of these over time.

This Action Plan will be monitored on a biannual basis.

The outcomes of the monitoring process will be used to identify key challenges and focus areas for the following year based on actions that are not on track for completion within their timeframe, and actions that have not resulted in the achievement of the intended mitigation outcomes.

Following the biannual monitoring process, we will evaluate our Action Plan and identify whether any areas require updates, or additional funding/focus in order to

be achieved. Any changes made will be communicated to Council and to our community where relevant.

Our Action Plan will be reviewed in full every year to maintain its relevance and currency. This will be a wider review process including input from the Shires CEO, executive team and the elected members of council.

### **Reporting**

The outputs of the biannual review process will be documented in a report to Council showing progress against each action and target. Where changes are required to Action Plans as a result of the annual report these will be submitted to Council for approval.

The outcomes of the full review process will generate a revised version of the Action Plan which will be submitted to Council for approval before being adopted.

Major updates and achievements will be publicly communicated to our residents, businesses, and the wider community through online communications, and within our Annual Report.

# Glossary

## **Climate**

The composite of surface weather conditions such as temperature, rainfall, atmospheric pressure, humidity, sunshine and winds, averaged over a period of time ranging from months to thousands of years.

## **Climate change**

Any change in climate over time, whether due to natural variability or as a result of human activity.

## **Climate change mitigation**

Climate change mitigation consists of actions to limit the magnitude or rate of long-term climate change. Climate change mitigation generally involves reductions in human emissions of greenhouse gases.

## **Climate change adaptation**

Climate change adaptation is a response to global warming and climate change, that seeks to reduce the vulnerability of social and biological systems to relatively sudden change and thus offset the effects of global warming.

## **Adaptive capacity**

The capacity of an organisation or system to moderate the risks of climate change, or to realise benefits, through changes in its characteristics or behaviour.

## **Climate projection**

A projection of the response of the climate system to scenarios of greenhouse gas emissions or atmospheric concentrations of greenhouse gases. Climate projections are often based upon simulations of the climate system by computer based mathematical models. Climate projections depend on assumptions about emission rates and concentrations and response of the climate system to changes in these variables and can therefore be distinguished from climate predictions.

## **Climate scenario**

A coherent, plausible but often simplified description of a possible future state of the climate. A climate scenario should not be viewed as a prediction of the future climate. Rather, it provides a means of understanding the potential impacts of climate change, and identifying the potential risks and opportunities created by an uncertain future climate.

### **Climate variability**

Variations or deviations from the mean state of the climate. The climate system has natural, internal variability but variability could be affected by external factors driving climate change such as changes in the atmospheric concentration of greenhouse gases.

### **Enhanced greenhouse effect**

Increases in the atmospheric concentration of greenhouse gases such as carbon dioxide, methane and nitrous oxide due to human activities, leading to an increase in the amount of thermal radiation near the Earth's surface.

### **Extreme event**

Weather conditions that are rare for a particular place and/or time such as an intense storm or heat wave.

### **Global warming**

An increase in the global average surface temperature due to natural or human caused factors.

### **Greenhouse gases**

A greenhouse gas (GHG) is a gas in an atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect.

### **Greenhouse effect**

The process where gases in the lower atmosphere such as carbon dioxide and water vapour trap radiation released by the Earth's surface after it has been warmed by solar energy. These gases then radiate heat back towards the ground, adding to the heat the ground receives from the Sun.

### **Net zero emissions**

Carbon neutrality, or having a net zero carbon footprint, refers to achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset, or buying enough carbon credits to make up the difference.

## **Offsets**

A carbon offset (or carbon credit) is generated from an activity that prevents, reduces or removes greenhouse gas emissions from being released into the atmosphere to compensate for emissions occurring elsewhere.

## **Renewable energy**

Renewable energy is energy that is collected from renewable resources that are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

## **Resilience**

The capacity of individuals, institutions, businesses and systems to adapt to chronic stresses and acute shocks.

## **Sensitivity**

The degree to which a system is affected, either adversely or beneficially, by climate related variables including means, extremes and variability.

## **Urban heat island effect**

Refers to when an urban area is significantly warmer than its surrounding rural areas due to human activities. The main cause of the urban heat island effect is from the modification of land surfaces.

## **Vulnerability**

The extent to which a system or organisation can cope with the negative impacts of climate change, variability and extremes. It is a function of risk and adaptive capacity.



**SHIRE OF  
HARVEY**

*A Breath of Fresh Air*

# Shire of Harvey Climate Change Declaration



## Introduction

Climate change is having, and will continue to have, significant effects on the Western Australian environment, society and economy, with impacts felt at the Local Government level. The Shire of Harvey acknowledges that human behaviours, pollution and consumption patterns have both immediate and future impacts on the climate and environment, and that as a Local Government it is part of our role to mitigate and manage these impacts on our community.

This Declaration establishes our position on climate change, and outlines our commitments to addressing climate change, which are further expanded upon in our Mitigation Action Plan.

The Shire of Harvey supports the environmental, social and economic benefits of addressing climate change immediately. We see an opportunity for Local Government to demonstrate leadership in climate change management at a community level and support the development of equitable and implementable State and Commonwealth strategies for climate change management.

## Declaration

The Shire of Harvey recognises that climate change is occurring, and that climate change will continue to have a significant effect on the Western Australia environment, society and economy.

We acknowledge the central role of Local Government in driving a successful climate response. Hence, we declare that we are committed to addressing climate change within our Local Government area, through the implementation of mitigation and adaptation strategies to minimise the effects on our community, environment and economy.

Our overall objectives are to demonstrate climate leadership, reduce our corporate emissions and build the resilience of our Shire to climate change.

## Background

International scientific consensus is that climate change is occurring, and that it is driven by anthropogenic causes, with human activities having a profound impact on the concentration of greenhouse gas emissions since the start of the industrial revolution. Ultimately, these activities, such as the burning of fossil fuels, land clearing and agriculture, have increased greenhouse gas concentrations in the atmosphere, leading to changes in the climate system.

For the Shire, projected changes to our climate in the future include:

- Further increase in temperatures, with more extremely hot days and fewer extremely cool days;
- More heat waves that will be longer and hotter;
- More frequent, extensive, intensive and longer - lasting marine heatwaves;
- Ongoing sea level rise;
- Further warming and acidification of the oceans;
- A decrease in cool - season rainfall across southern Australia, including the southwest of WA;
- More frequent, longer and more intense droughts across southern Australia, including the southwest of WA;
- More intense heavy rainfall throughout Australia, particularly for short - duration extreme rainfall events (storms);
- An increase in the number of high fire weather danger days and a longer fire season;
- Through a combination of many of these impacts, changes to biodiversity including increased species extinction.

These changes have the potential to impact our environment, assets and infrastructure in our Local Government area, and the health, safety and wellbeing of our people. We therefore need to plan for, and adapt to, these changes to ensure our Shire remains a resilient and vibrant area.

## Role of Government

As a signatory to the Paris Agreement under the United Nations Framework Convention on Climate Change and the United Nations Sustainable Development Goals, Australia has committed to taking action on climate change.

The Paris Agreement recognises the importance of engagement at all levels of government. As such, the management of climate-change risks in Australia is spread across the three tiers of government: Commonwealth, State and Territory, and Local.

The responsibility for Local Governments' to mitigate the impacts of climate change is reflected in the *Local Government Act 1995 (WA)*:

*“In carrying out its functions a Local Government is to use its best endeavours to meet the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity. (Section 1.3(3))”.*

As a Local Government our key responsibilities include administering relevant legislation to promote adaptation, mitigating climate risks and impacts to our community and assets as well as the delivery of our services to our community, collaborating with other Local Governments and with State and Territory Governments to manage regional impacts, and the facilitation of resilience building and adaptive capability in our local community.

## Progress to Date

In order to respond to the impacts of climate change, the Shire of Harvey has taken action by:

- Developing a Corporate Mitigation Action Plan.
- Becoming an endorsed Waterwise Council 2022.
- Conducting dune renourishment.
- Diversion of organics from landfill by introduction the 3 kerbside bin FOGO system.
- Developing of a Fleet Vehicle Offset Program.
- Implementing WSUD principles in Shire landscaping works.
- Working as part of the Peron Naturaliste Partnership (PNP) to develop a CHRMAP for the Shire's coastline and the Collie River.
- Committing to the Power Purchase Agreement (PPA) with WALGA and Synergy to have all major Shire buildings powered by renewable energy by 2024/25.

## Commitments

The Shire of Harvey commits from the date of signing to:

- Implementing the actions outlined in the Shires' Corporate Mitigation Action Plan.
- Develop a Corporate Adaptation Action Plan.
- Implementing a Fleet Offset Program.
- Reduce corporate emissions in line with targets set out in key National and International agreements.
- Support WALGA to work with State and Federal Government to ensure achievement of greenhouse gas emissions reduction targets as set out in key National and International agreements.
- Support WALGA to work with State and Federal Government to implement key actions and activities for climate change management at a local level.
- Work with key stakeholders to ensure achievement of the actions set out in our Corporate Mitigation Action Plan.
- Assess the locally specific risks associated with climate change and implications for our services, and identify areas where appropriate mitigation and adaptation strategies should be developed and implemented.
- Ensure that, at appropriate review intervals, future climate change policies and strategies are reviewed and amended to incorporate the latest climate science, and to reflect the climate change management priorities and progress achieved to date.
- Monitor the progress of our mitigation and adaptation actions.

## Signatures

Signed:

Shire President – Shire of Harvey

Date:

Signed:

President - Western Australian Local Government Association

Date: