



Climate Change Strategy

2023–2030



Acknowledgement of Country

Frankston City Council acknowledges the Bunurong people of the Kulin Nation as the Traditional Custodians of the lands and waters in and around Frankston City, and value and recognise local Aboriginal and Torres Strait Islander cultures, heritage and connection to land as a proud part of a shared identity for Frankston City.

Council pays respect to Elders past and present and recognises their importance in maintaining knowledge, traditions and culture in our community.

Council also respectfully acknowledges the Bunurong Land Council Aboriginal Corporation as the Registered Aboriginal Party responsible for managing the Aboriginal cultural heritage of the land and waters where Frankston City Council is situated.



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Mayor's foreword

As the Mayor of Frankston City, I would like to present the Climate Change Strategy 2023-2030. It is built on the great achievements of our Council that re-iterated its commitment to climate action by declaring a climate emergency in 2019 and set the direction for our emissions reduction efforts in the Towards Zero Emissions Plan 2019-2023.

This Strategy will guide our climate action through the most defining years of our pathway toward keeping global warming well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C. We are proud to be a part of the growing movement among Australian local governments that use science-based emissions reduction targets and align our climate action with the Paris Agreement. We join the global community in our pursuit of a zero-carbon resilient future that will ensure that Frankston remains liveable, healthy and sustainable for the current and future generations.

Like any change, climate change presents challenges. As a vibrant and innovative City, Frankston is in a position to approach these challenges as opportunities and lead our community through the transition toward becoming climate-smart. Our youth told us that they would like future Frankston to be clean, green, sustainable and healthy. The future belongs to the prepared and the climate actions in this Strategy will help us achieve this vision.

As Council, we make key commitments through the six central themes of this Strategy. We will:

- accelerate our transition toward zero carbon operations, buildings, assets and transport, as well as our transition towards a zero waste, circular city
- support your climate action ambitions and build the capacity of our community to cope with the stresses caused by climate change
- put an emphasis on protecting the biodiversity of our open spaces, marine and coastal environment.
- adapt through managing our natural and built environment for resilience and sustainability.

I look forward to working with our community on creating a more climate smart Frankston City.



Executive summary

Climate change is one of the biggest challenges to our current and future way of life. Frankston City Council (Council) has been working to address climate change for more than two decades and is part of the global movement calling for urgent climate action.



The purpose of the Climate Change Strategy (Strategy) is to build on the previous efforts guiding Council and the Frankston City community towards net zero greenhouse gas emissions and preparing for the impacts of climate change. The Strategy aims to deliver 57 actions over seven years to 2030.

The Strategy is based on the latest climate science, and incorporates input from Council's key strategic documents and the community. It provides direction for Council to respond to the climate emergency in collaboration with the community and a range of partner organisations.

Council will also seek the wisdom from the traditional custodians of this land, represented by the Bunurong Land Council, who have a long history of caring for Country. They have long shared stories of the changing environment, building resilient communities, applying traditional knowledge and science to the management and care of our natural environment. Council recognises the complexity of climate change impacts and believes that cooperation is key to timely climate action. Council aims to inform and empower the community to take action to reduce their emissions and build resilience to the impacts of climate change.

Key vulnerabilities in Frankston City

Understanding Frankston City's emissions and key vulnerabilities is the first step in climate action, setting targets and planning for a climate smart future.



Our biodiversity is significantly affected by climate change. More frequent extreme weather events and shifting seasonal patterns are likely to lead to irreversible changes in our local habitat and threaten the environmental services they provide.



Our coastline is vulnerable to the impacts of sea level rise, storm surges and coastal inundation. The significant changes in coastal processes will cause erosion, loss of vegetation, cliff instability and impact beach accessibility.



Our community is already being affected by extreme weather events whose compound effects present high public health concern. Younger and older generations, as well as people with existing health conditions, are particularly vulnerable to the increasingly more common climatic events such as heatwaves and smoke from bushfires.



Our Aboriginal cultural heritage and the ability of Aboriginal people to care for Country and practice culture are affected by the impacts of climate change. The adverse effects of climate stressors on Country threaten the identity and sense of belonging of Frankston City's Traditional Custodians.



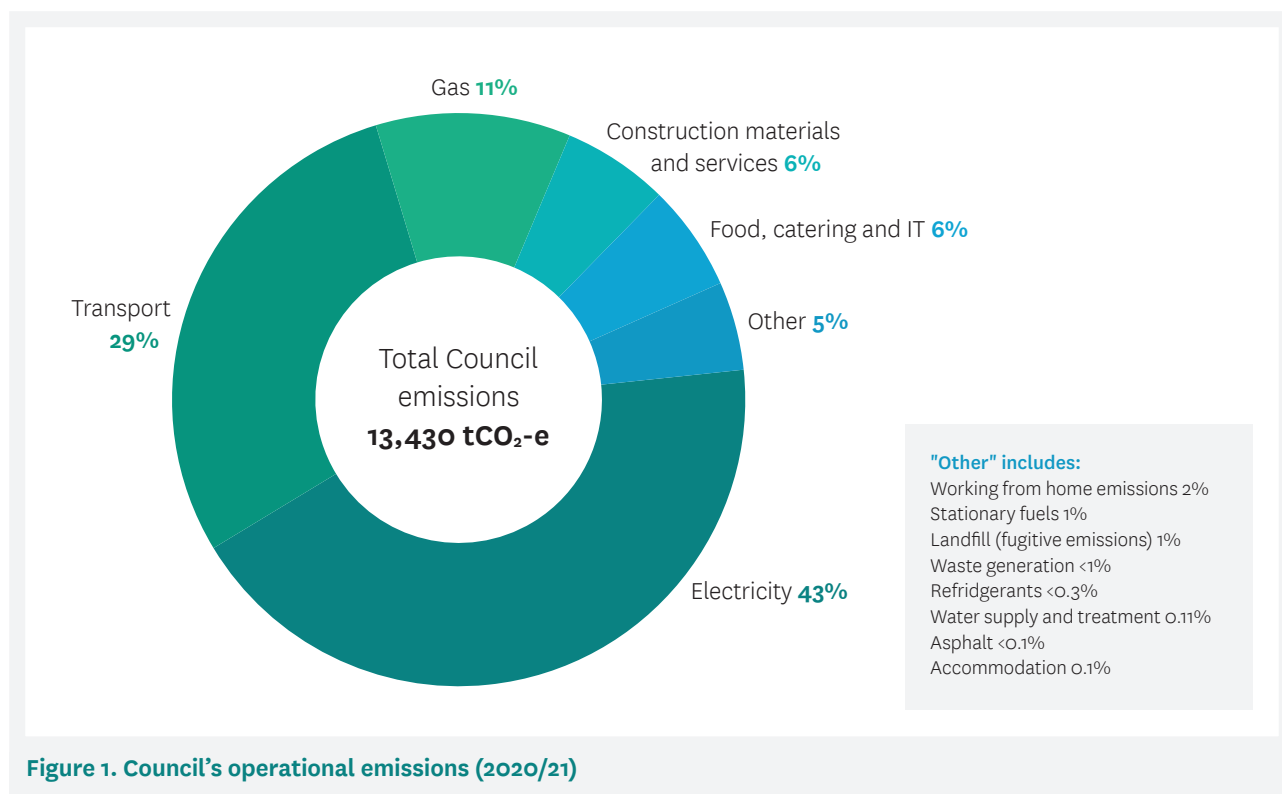
Our infrastructure, built environment and the services they provide (e.g. buildings, drainage, roads and pathways, open spaces, electricity network) are under more pressure due to climate change, leading to disruptions and higher operating and repair costs.



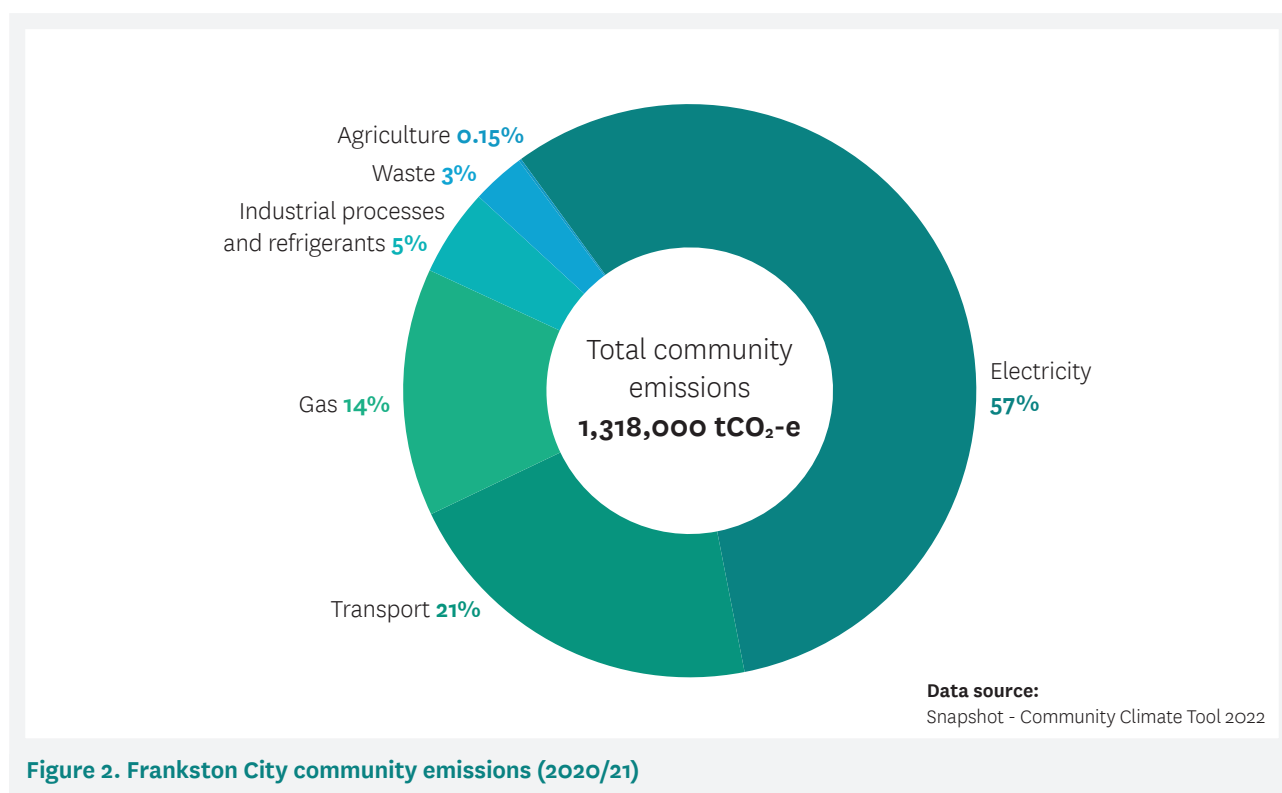
Our homes need to be more resilient, especially those hard to heat or cool, which cannot easily adapt to or be protected from extreme weather events. The segments of our community living in rented accommodation, social and affordable housing, under mortgage or rental stress can struggle to make the necessary improvements and are particularly vulnerable.

Key emission sources in Frankston City

The majority of Council's operational emissions shown in Figure 1 come from electricity (43%), transport (29%) and gas (11%).



The majority of Frankston City's community emissions shown in Figure 2 come from electricity (57%), transport (21%) and gas (14%).



Our commitments and staying on track

Council has set an ambitious seven-year action plan that outlines its emission reduction and climate adaptation priorities. Council has committed to a **42% reduction in its operational emissions by 2030** from a base year of 2020/21. This science-based target represents a true and fair account of the emissions reduction required by Council to restore a safe climate. It is aligned with the Paris Agreement and its goal of limiting global warming to **well below 2°C** above pre-industrial levels and pursuing efforts to limit warming to **1.5°C**.

The Frankston City community set a long-term vision and aspirations for the future of our City in the Frankston City Community Vision 2040. It identifies three key priorities listed in Figure 3 that are directly related to addressing climate change. As part of the delivery of this Strategy, Council will support, enable and advocate on behalf of its community to achieve the Community Vision 2040.



Figure 3. Frankston City Community Vision 2040 Theme 3

Our strategic themes that Council will work towards

Six themes have been identified where the most significant gains can be made to mitigate emissions within Frankston City and assist the natural environment, our community and our economy to adapt to climate change impacts.

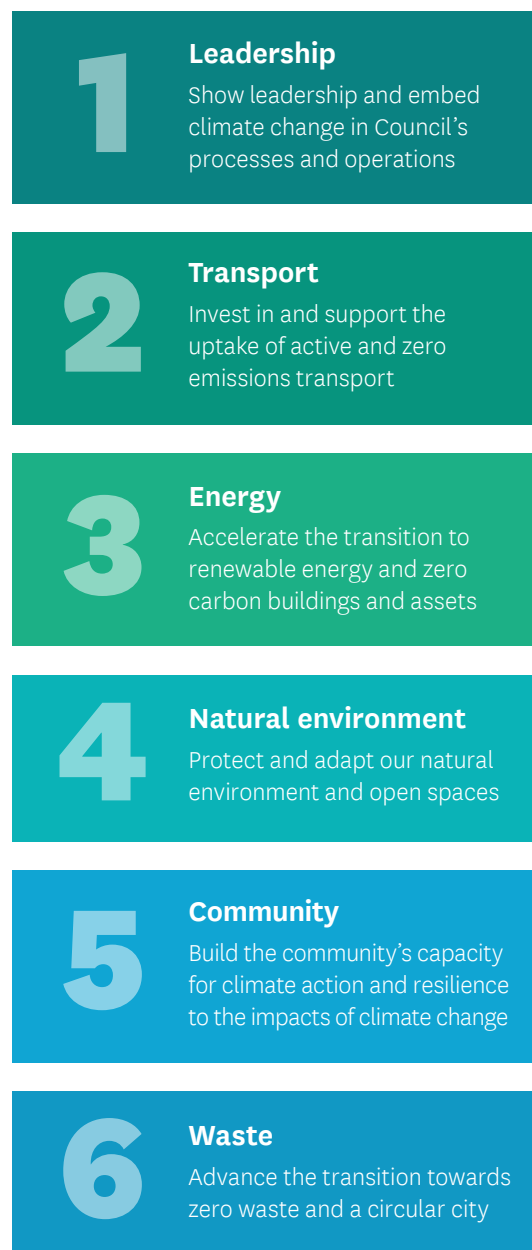


Figure 4. Frankston City Council's Climate Change Strategy themes

Strategy on a page

Purpose

Guide Frankston City Council and its community towards net zero greenhouse gas emissions and prepare Council and our community for the impacts of climate change.

Target

Reduce Council's operational emissions by 42% by 2030, from a 2020/21 base year.

<1.5°C

Major emission sources

Council's operational emissions



Electricity **43%**
Transport **29%**
Gas **11%**

Frankston City community emissions



Electricity **57%**
Transport **21%**
Gas **14%**

Climate impacts



Bushfires



Drought/
rainfall



Floods



Heatwaves



Sea level
rise



Storms



Heat and
humidity

Adaptation priorities



Our
biodiversity



Our
coast



Our
community



Our Aboriginal
cultural heritage



Our infrastructure,
built environment



Our
homes

Community priorities

- Preserving and enhancing biodiversity and urban forest
- Increasing renewable energy use
- Avoiding and reducing waste
- Achieving sustainable buildings and homes.

Themes

- 1 Show **leadership** and embed climate change in Council's processes and operations
- 2 Invest in and support the uptake of active and zero emissions **transport**
- 3 Accelerate the transition to renewable **energy** and zero carbon buildings and assets
- 4 Protect and adapt our **natural environment** and open spaces
- 5 Build the **community's** capacity for climate action and resilience to the impacts of climate change
- 6 Advance the transition towards zero **waste** and a circular city

Actions and mechanisms

- Planning controls and standards
- Sustainable and resilient infrastructure delivery
- Council building retrofits and upgrades
- Advocacy for regional, state, federal and international government agency action
- Sustainable procurement
- Staff training and engagement
- Renewable energy procurement and solar generation
- Regional collaboration
- Community education and empowerment
- Community grants, incentives and rebates

Timeframe



Adoption by Council

Implementation, monitoring and review



End year

1. Purpose

The purpose of the Climate Change Strategy is to guide Council and the community towards net zero greenhouse gas emissions, and to prepare Council and our community for the impacts of climate change.



This Strategy is based on the latest climate science and provides direction for Council to respond to the climate emergency in collaboration with the community and its partners.

The Strategy seeks to achieve the following outcomes:

- Reducing emissions from Council operations in line with the Paris Agreement
- Partnering with and supporting the community to transition to a low carbon economy
- Adapting to climate change by ensuring Council assets and services are resilient, and ensuring that Council is prepared to assist residents in times of emergency
- Adapting to climate change by protecting communities, key assets and systems that are particularly vulnerable to the negative impacts of climate change

The Strategy includes a seven-year action plan. This action plan has been informed by Council's successes and learnings from previous actions, evidence-based research and the views, priorities and feedback from our community.

Our partners and their roles in climate action

Addressing climate change will require action at all levels of government, from agencies, organisations, businesses and individuals. Council recognises that collaboration is key to timely climate action and works with a range of partners and stakeholders whose roles are detailed below.

This Strategy sets a plan for Council to address its own emissions and vulnerabilities. It also identifies opportunities for Council to collaborate with, support, enable and advocate for action outside of its own boundaries.

Federal government

Australia is a signatory to the Paris Agreement. On 8 September 2022, the *Climate Change Bill 2022* became part of Australia's legislative framework. Key to this act are the following targets:

- Reaching 43% below 2005 levels of emissions by 2030
- Reaching net zero emissions by 2050

State government

In 2017, the Victorian Parliament passed a new *Climate Change Act 2017*, positioning Victoria as a leader in climate action. The Act sets out a clear policy framework and a pathway to a climate resilient community and a net zero emissions economy by 2050. In May 2021, interim emission targets were announced. The state is working towards reduction targets of 28% to 33% by 2025, and 45% to 50% by 2030, to achieve the goal of net zero emissions by 2050.

However these targets are not consistent with achieving the goals of the Paris Agreement. Local councils will require the Victorian Government to take bold and ambitious action on climate change through their programs, services and legislation and regulations to help the Frankston City community achieve its goal of being carbon neutral by 2040.

Sustainability Victoria (SV), a delivery agency of the Victorian Government, plans to accelerate Victoria's transition to a circular, climate resilient, clean economy. *SV2030: A Decade of Action Strategy* provides an outline of the programs being supported by SV. Pertinent to Frankston City is the *Community Action* focus area, which will entail delivering place-based projects and programs in collaboration with councils, including facilitating community renewable energy hubs.

Local government

The role of Victorian local governments in managing emissions and responding to climate change is defined by the *Local Government Act 2020*. The 2020 Act amended the previous 1989 Act in various ways, one of which was strengthening the mandate for considerations of climate change risk in Council decision-making processes.

Local councils are also the closest level of government to communities and are at the forefront of dealing with climate change. They play an important role in providing a wide variety of services and enforcing various federal, state and local laws. The services and the infrastructure that councils provide are vulnerable to the impacts of climate change and generate emissions. Local councils are therefore well placed to work with the state and federal government, the community and other stakeholders to accelerate climate action.



Traditional custodians

Aboriginal and Torres Strait Islanders are Australia's First Peoples, they are the oldest continuing culture on Earth. They have maintained ecological knowledge that is invaluable in guiding our efforts to address the challenges presented by climate change. Traditional Custodians and scientists have been working together to create a holistic assessment of the state of Australia's environment (Australia State of the Environment 2021) and enhance our national response to climate change facilitated through the National First People's Gathering on Climate Change in 2021.

Engagement and collaboration with the Bunurong Land Council Aboriginal Corporation are essential to foster resilience through incorporating their in-depth understanding of the land as well as the principles of Caring for Country.

Emergency services

Disaster risk management and emergency climate adaptation responsibilities are currently decentralised across national and local levels. Cooperation between emergency management agencies and local governments when responding to emergencies is well-established, however, the projected increase in climate stressors and concurrent extreme weather events may present additional challenges.

Emergency Leaders for Climate Action (ECLA), established in 2019, provides sectoral leadership in climate action. The Australasian Fire and Emergency Service Authorities Council (AFAC) with the Australian Institute for Disaster Resilience (AIDR) acknowledge that "in order to achieve community resilience, a joint effort by all levels of government, business, communities, organisation, households and individuals is required" (AFAC, 2020). Said collaboration will enhance the capacity of the emergency management sector to support preparedness and response, as well as the Council's relief and recovery efforts.

Regional groups and neighbouring councils

Across the region, Council works with several groups and alliances to respond to climate change. These partnerships help to scale up efforts and identify opportunities for advocacy and regional action, while reducing duplication of effort and resources. Council works with groups such as the South East Councils Climate Change Alliance (SECCCA), Association of Bayside Municipalities (ABM), Council Alliance for a Sustainable Built Environment (CASBE) and Living Melbourne to name a few.

Community

Our community plays an important role in addressing climate change. Council can enable and support the community through a range of initiatives, for example:

- Improvements to infrastructure to enable low or zero emission transport, and build resilience to climate impacts
- Assisting the community in achieving higher Environmentally Sustainable Design (ESD) standards by imposing stricter controls on new development
- Providing incentives to enable communities to take action and overcome barriers (e.g. rebates, bulk purchasing initiatives)
- Education and information sharing with residents, businesses and community groups
- Advocacy for action and policy changes at regional, State and Federal levels.

Frankston City residents can, and are, taking action on climate change. Council is here to support Frankston City's transition to net zero and climate resilience.

2. Background



Former Mayor, Sandra Mayer, with Councillors and staff celebrated the Council declaring a Climate Emergency following the Ordinary Meeting on 18 November 2019.

2.1 A changing climate

Our climate is changing. Observed changes over the past 100 years include increases in global average air and ocean temperature, rising global sea levels, 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 are caused by extra heat in the climate system due to the addition of greenhouse gases to the atmosphere. The additional greenhouse gases are primarily due to human activities such as the burning of fossil fuels (coal, oil, and natural gas), agriculture, and land clearing. The pattern of observed changes in the climate system is consistent with an increased greenhouse effect.

Many of the impacts of climate change pose risks to human and natural systems, through more frequent and severe heat waves, coastal inundation due to sea level rise, disruptions to rainfall patterns and other effects. Analyses of a range of climate scenarios indicate the most severe risks of climate change can largely be mitigated if greenhouse gas emissions are reduced to the point they are no longer accumulating in the atmosphere.²

Australian Government 2022

The Intergovernmental Panel on Climate Change (IPCC) identified several climate change impacts in the Sixth Assessment Report (AR6) that are projected for the Australasia region with a high, or very high confidence¹.

Loss and degradation of coral reefs and associated biodiversity and ecosystem service values in Australia due to ocean warming and marine life (very high confidence).

Loss of alpine biodiversity in Australia due to less snow. Transition or collapse of alpine ash, snowgum woodland, pencil pine and northern jarrah forests in southern Australia due to hotter and drier conditions with more fires (high confidence).

Disruption and decline in agricultural production and increased stress in rural communities in south-western, southern and eastern mainland Australia due to hotter and drier conditions (high confidence).

Loss of kelp forests in southern Australia due to ocean warming, marine heatwaves and overgrazing by climate-driven range extensions of herbivore fish and urchins (high confidence).

Loss of natural and human systems in low-lying coastal areas due to sea level rise (high confidence).

Cascading, compounding and aggregate impacts on cities, settlements, infrastructure, supply chains and services due to wildfires, floods, droughts, heatwaves, storms and sea level rise. Inability of institutions and governance systems to manage climate risks (high confidence).

Increase in heat-related mortality and morbidity for people and wildlife in Australia due to heatwaves (high confidence).

¹ Intergovernmental Panel on Climate Change (IPCC) - Sixth Assessment Report (AR6) 2022

² Department of Climate Change, Energy, the Environment and Water 2021 - Understanding climate change

Climate Change in Victoria and Greater Melbourne

Victoria is already experiencing the impacts of climate change and is projected to continue to change over the coming decades. Some of the changes already experienced across the state are:

The average annual temperature has increased by 1.2°C since 1910, making Victoria hotter and drier.

Over the past 30 years, Victoria's cool season rainfall has declined compared to the average of the last century.

The number of days with extreme weather conditions resulting in high bushfire danger have increased across the state and region.

The major climate change impacts projected for our region^{3,4} include:



Maximum and minimum daily temperatures will continue to increase over this century (very high confidence).



By the 2030s, increases in daily maximum temperature of 0.8 to 1.6°C (since the 1990s) are expected.



By the 2050s, the number of high fire danger days in the region is projected to increase by 42%.



Sea level is projected to rise by around 24cm by the 2050s.



By the 2050s, under high-emission scenario RCP8.5, the climate of Frankston City could be closer to the current climate of Albury-Wodonga.



Rainfall will continue to be very variable over time, but over the long term it is expected to continue to decline in winter and spring (medium to high confidence).



Extreme rainfall events are expected to become more intense on average through the century (high confidence) but remain very variable in space and time.



³ CSIRO and Department of Environment, Land, Water and Planning - Greater Melbourne Climate Projections 2019

⁴ Climate Change in Australia - Climate Analogues 2020

2.2 Climate action

Responding to climate change requires a two-pronged approach that includes both mitigation and adaptation.

Human-induced climate change is a consequence of more than a century of net greenhouse gas emissions from unsustainable energy use, land use and land use change, lifestyle and patterns of consumption and production. Without urgent, effective and equitable mitigation actions, climate change increasingly threatens the health and livelihoods of people around the globe, ecosystem health and biodiversity.

Accelerated and equitable climate action in mitigating and adapting to climate change impacts is critical to sustainable development.

IPCC 2022, p.44⁵

Mitigation – reducing emissions

Climate mitigation is focused on avoiding and reducing emissions to prevent the worsening of climate change.

Key areas of mitigation relevant to Council and our community are:

- Reducing the burning of fossil fuels (e.g. coal, petroleum, diesel and gas)
- Reducing electricity consumption
- Generating renewable electricity (e.g. solar)
- Minimising waste and diverting waste from landfill (waste materials in landfill emit emissions)
- Maximising the storage of CO₂ in our natural environment, for example, through retaining, protecting and increasing tree and vegetation cover.

Global emissions must be cut by 50% by 2030 if we are to keep warming to 1.5°C.

Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.

IPCC 2022⁶

In addition to reducing emissions, some of the benefits associated with taking action include:

- Reduced energy costs and resource conservation through energy efficiency and renewable energy, resulting in less dependence on non-renewable energy sources (e.g. coal and gas)

- Supporting the electricity grid through energy efficiency and renewable energy generation, reducing peak demand and lowering the risk of power outages
- Less pollution from cleaner energy sources
- An increase in property values through high efficiency green buildings
- Improved thermal comfort in homes and other buildings
- Wider implementation of nature-based solutions, improving biodiversity and the City's blue-green infrastructure.

Adaptation – preparing for the effects of the changing climate

Climate adaptation is the process of adjusting to the current and expected impacts of climate change in order to build resilience and moderate harm.

Key areas of adaptation relevant to Council and our community are:

- Building our houses and infrastructure differently to take into account changes to our climate and weather systems
- Preparing for, responding to and recovering from extreme weather events and natural disasters
- Increasing, changing or adding services and support systems to cater for vulnerable communities and people who are likely to be more acutely affected by climate change
- Identifying and managing risks associated with the transition to a low carbon economy
- Increasing our urban forest and connectivity between ecosystems
- Fostering resilience through broader collaboration with Traditional Custodians to strengthen our understanding of the land and the principles of Caring for Country.

Local governments and their communities are on the frontline when dealing with the risks and impacts of climate change. Councils need to prepare for the unavoidable impacts of climate change (through adaptation) and play a significant role in reducing Australia's carbon footprint by mitigating the CO₂ emissions from their assets and supporting emission reduction efforts by their local communities. They need to work with their communities to transition them to a low carbon future.

The Australian Local Government Association 2022⁷

⁵ Intergovernmental Panel on Climate Change (IPCC) AR6 WGIII Mitigation of Climate Change, Summary for Policy Makers (D.1.1) 2022, p.44

⁶ Intergovernmental Panel on Climate Change (IPCC) Climate change: a threat to human wellbeing and health of the planet. Taking action now can secure our future 2022

⁷ The Australian Local Government Association (ALGA) 2022 – Address the Risks of Climate Change

3. Goals and objectives

Council is committed to doing its fair share in the global effort to achieve net zero emissions by 2050. Based on the results of our community consultation, expert-led emissions modelling and vulnerability assessment, we identified six central themes.



These themes, listed in Figure 4, will help us address the climate emergency we are facing today on a local and regional level. Their overarching objectives are to mitigate emissions within Frankston City and assist the natural environment, our community and our economy to adapt to climate change impacts.



3.1 Frankston City Community Vision 2040

The Community Vision 2040 and aspirations describe what our community wants our municipality to look and feel like in the future. It was created by a representative community panel of residents, and voiced in their own words. It sets the direction for our whole community, inspiring us all to work together to create a future for our City that our community wants to see, live and experience.

Community Vision: Frankston City 2040 is the place on the bay to learn, live, work and play in a vibrant, safe and culturally inclusive community. Our City is clean, green and environmentally sustainable.

Theme 3 Natural environment and climate action further aspires to: Frankston City is green and sustainable, and a leader in sustainable industry and development. Both Council and community are committed to protecting and enhancing the environment and actively addressing climate change.

The Strategy has been designed to contribute to Frankston City's Community Vision. The themes within this strategy align strongly with the themes in the Frankston City Community Vision 2040, as shown in Table 1.

Table 1. Alignment of themes of the Climate Change Strategy with the Community Vision 2040

CLIMATE CHANGE STRATEGY THEMES	FRANKSTON CITY COMMUNITY VISION THEMES					
	1. Healthy families and communities	2. Vibrant and inclusive communities	3. Natural environment and climate action	4. Connected places and spaces	5. Industry, employment and education	6. Advocacy, governance and innovation
Leadership			★		★	★
Transport	★		★	★		★
Energy	★		★		★	★
Natural Environment	★		★	★		★
Communities	★	★	★	★	★	★
Waste	★		★		★	★

3.2 Council's strategic progress

In 2008 Council adopted a target to be carbon neutral by 2025. Since that time, Council has continued to develop and deliver programs and projects aimed at reducing emissions. The full timeline is shown in Figure 5. In 2011 Council adopted its Climate Change Impacts and Adaptation Plan.

In November 2019, Council declared a Climate Emergency. This was followed by a Community Climate Change Survey in 2020, and a commitment to develop a new Climate Change Strategy to replace Council's Towards Zero Emissions Plan and Climate Change Impacts and Adaptation Plan, bringing greenhouse mitigation and climate adaptation together under one Strategy.

Both the Climate Change Impacts and Adaptation Plan and Towards Zero Emissions Plan have been reviewed and final progress reports presented to Council in 2020 and 2022 respectively.

Council has taken into account the successes and learnings from previous actions, and the views, priorities and feedback from our community to develop this seven-year Strategy.



Advocating to Victorian and Australian governments on climate change issues



Re-joined the **South East Councils Climate Change Alliance (SECCCA)**



Committed to the development of a new **Climate Change Strategy**

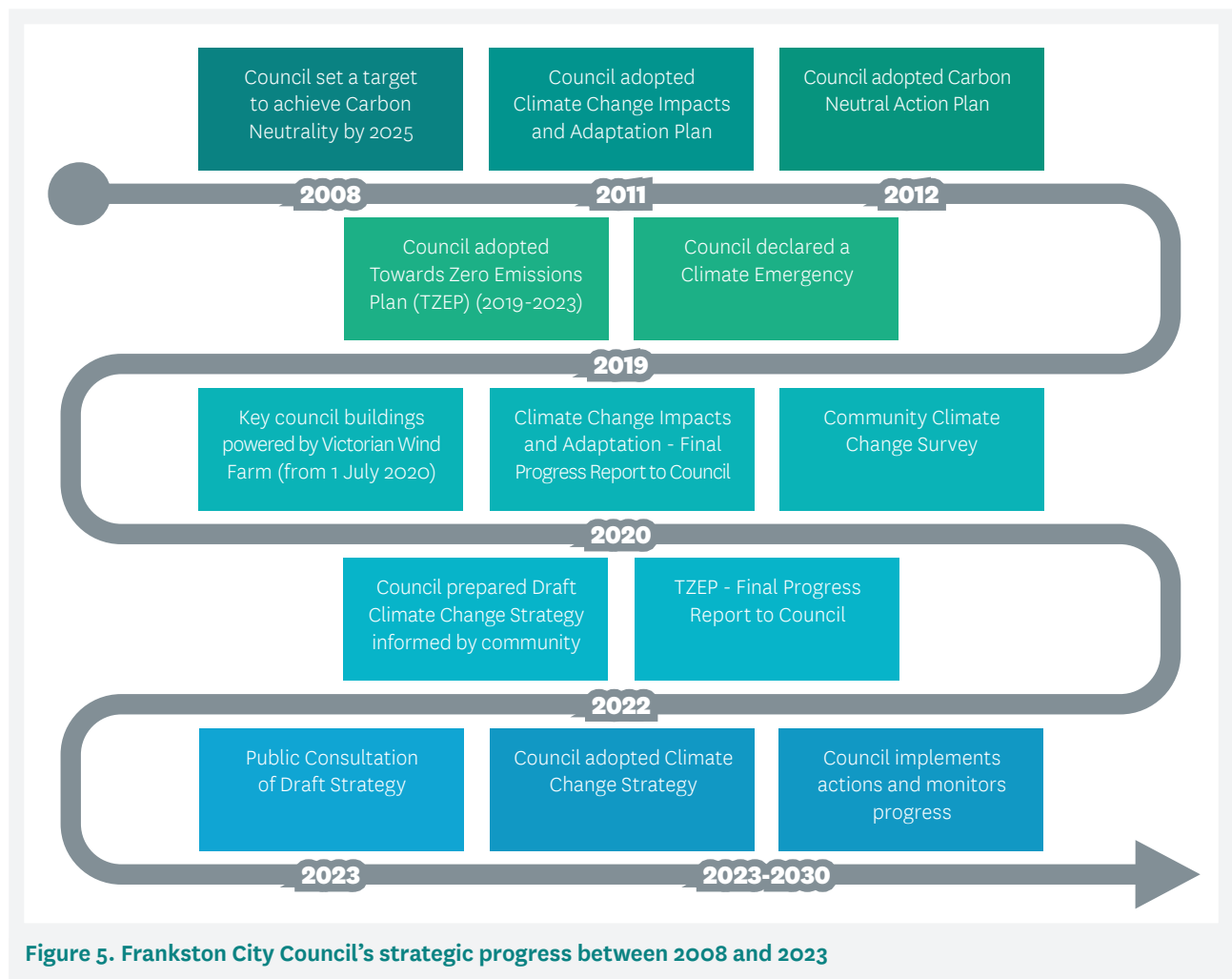


Figure 5. Frankston City Council's strategic progress between 2008 and 2023

4. Frankston City Council's emissions



4.1 Council's operational emissions

Council's operational emissions for the baseline year 2020/21 were estimated at 13,430 tonnes of carbon dioxide equivalent (tCO₂-e). The largest emission sources, as shown in Figure 6, were:

- Electricity supplied to Council facilities and streetlights (43%)
- Transport (Council fleet fuels, contractor fuel, business travel, and staff commuting) (29%)
- Gas supplied to Council facilities (11%)
- Food, catering and Information and Communications Technology (ICT) (6%)
- Construction activities and materials (6%)

Other emissions sources (5%) include emissions associated with staff working from home, stationary fuels, landfill (fugitive emissions), waste generated from Council operations, refrigerants, emissions associated with water supply and treatment, asphaltting, and business accommodation.

Please note: Council's operational emissions - i.e. the emissions associated with Council's provision of services - were recalculated for 2020/21 to reflect additional emissions sources in line with the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard. This has resulted in an increase in Council's emissions from what was previously reported.⁸

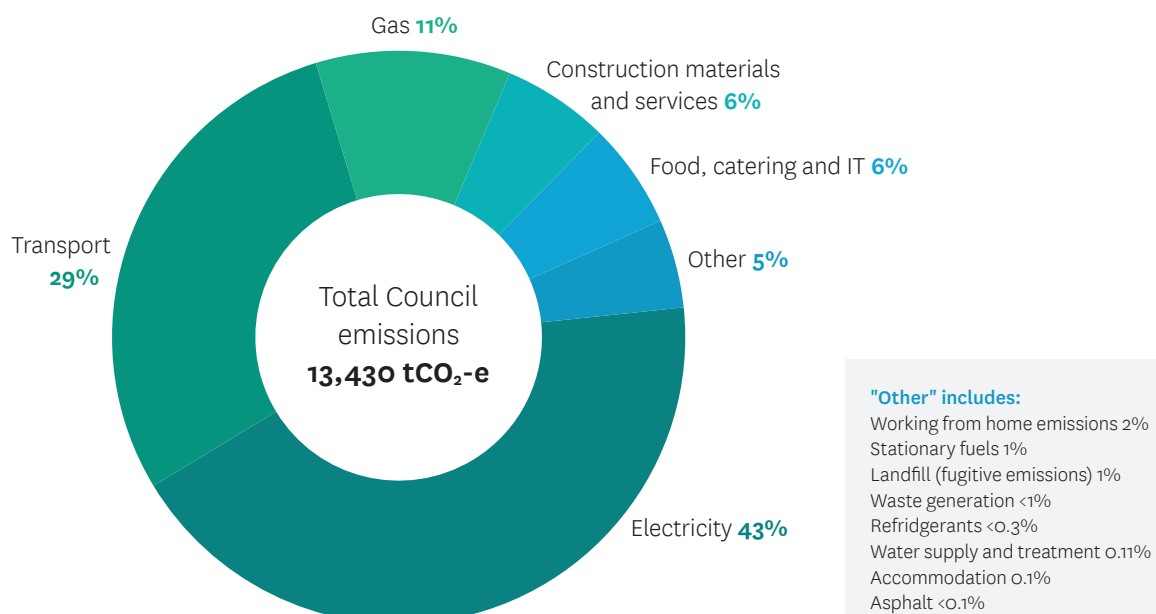


Figure 6. Council's operational emissions (2020/21)⁹

⁸ Council's previously reported emissions can be found on the Council website.

⁹ Council's emissions inventory includes all scope 1 emissions (gas, fuel used by fleet, stationary fuels, fugitive emissions from landfill and refrigerants), scope 2 emissions (electricity used by Council facilities and street lighting), and scope 3 emissions (associated with transmission and distribution of electricity and gas, waste from Council offices, water consumption, asphalt, staff commuting, staff travel, staff working from home, food and catering, IT services and equipment, and contractor fuel).

4.2 Reducing Council's emissions – pathway and target to 2030

Council has already started implementing a range of emission reduction initiatives that are expected to reduce its operational emissions by 2030. Some of these actions are shown in Figure 7 and include:

- Installing efficient LED streetlights on minor roads
- Energy efficiency upgrades and installing solar power systems at a range of Council facilities
- Procuring renewable energy for Council facilities and street lighting
- Purchasing carbon neutral certified gas at Council facilities.

This Strategy includes a range of additional initiatives to drive further operational emissions reductions. The new opportunities in this Strategy include:

- Conducting deeper energy efficiency works at Council facilities
- Conducting further LED lighting upgrades at Council facilities
- Installing efficient LED streetlights on remaining minor roads as well as major roads
- Installing rooftop solar at the Frankston Civic Centre, PARC and other facilities where feasible
- Investigating opportunities for procuring renewable energy for additional Council facilities (e.g. PARC and Pines)

- Replacing gas with renewable electricity for all Council facilities, where feasible
- Supporting active transport for business travel, improving the efficiency and utilisation of Council's fleet, and increasing the uptake of EVs and hybrids where fit-for-purpose
- Reducing emissions from Council's major service delivery contracts and procurement of other goods and services
- Implementing programs to minimise waste and increase diversion of waste from landfill.

Council's emission reduction pathway aligns with a science-based target trajectory of reducing operational emissions by 42% over 10 years. This target identifies what science tells us is required to limit global warming to 1.5°C, compared to pre-industrial levels. It is also aligned to the level of ambition in the Paris Agreement adopted in 2015.

The target is aspirational because it focuses Council's efforts on direct action. This approach will achieve absolute emissions reductions through enhanced investment in energy efficiency, renewable energy and transitioning away from gas, as opposed to relying on the purchase of carbon offsets.

The combined implementation of these actions will result in a 36% reduction in Council's operational emissions in 2029/30 compared to the base year of 2020/21, shown in Figure 8. This Strategy also includes a range of actions that will reduce operational emissions but cannot be quantified with an appropriate level of accuracy. Additionally, Council is expected to benefit from broader technological development that will increase mitigation opportunities in the future.

Towards net zero emissions



100% renewable energy
for Council-run facilities and street lights



Using materials with **recycled content** for road construction works



Installed over **60 rooftop solar systems** on Council buildings



Upgraded 6,960 street lights to **energy efficient LEDs**



Progressing **electric vehicle projects** including trials and identifying locations for public charging

Figure 7. Some of Council's emission reduction initiatives already implemented

The initial drop in emissions outlined in Figure 8 shows the estimated impact of all mitigation projects identified in the development of this Strategy. These projects will be put forward for funding through Council’s Long Term Infrastructure Plan 2019-2029. The implementation of the actions put forward in this Strategy, and additional not quantified actions and opportunities that arise over the duration of the Strategy will enable Council to reduce emissions and strive to reach this aspirational target by 2029/2030. Council will continue to monitor progress to ensure that it remains on track, aligning with the science-based target.

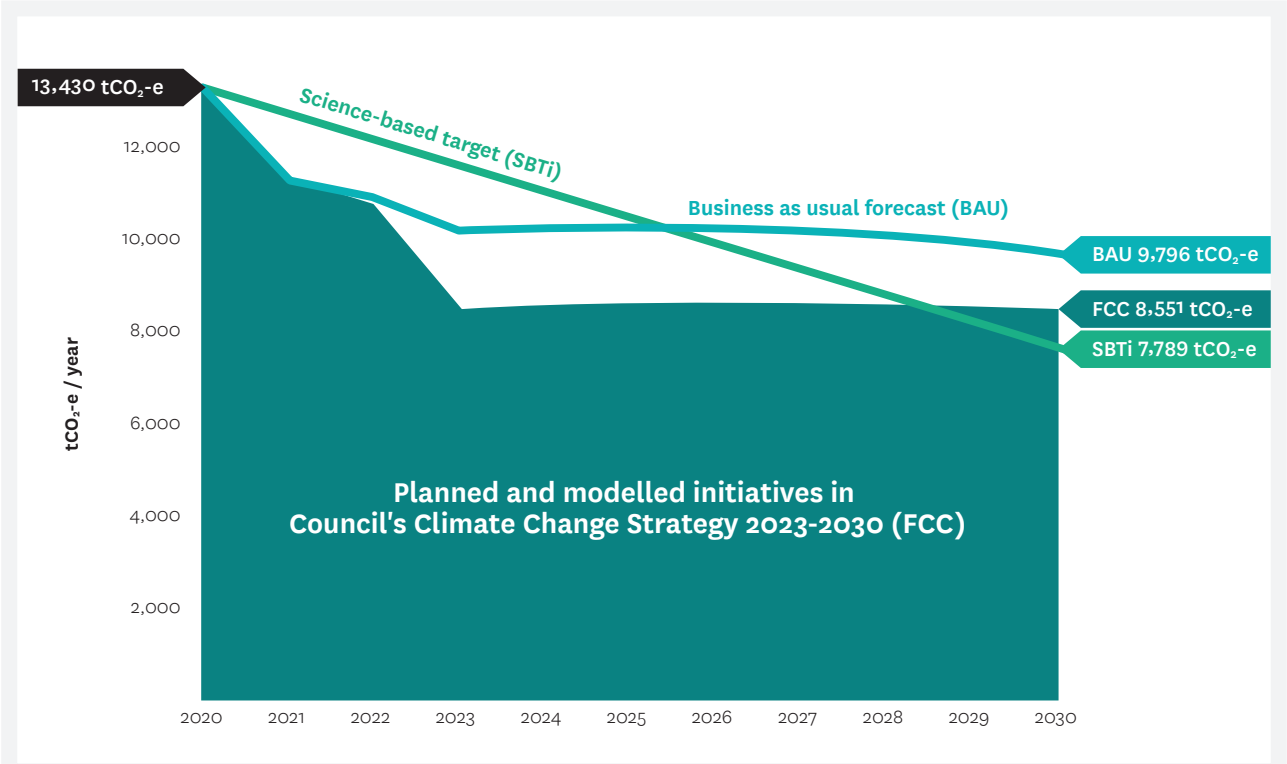
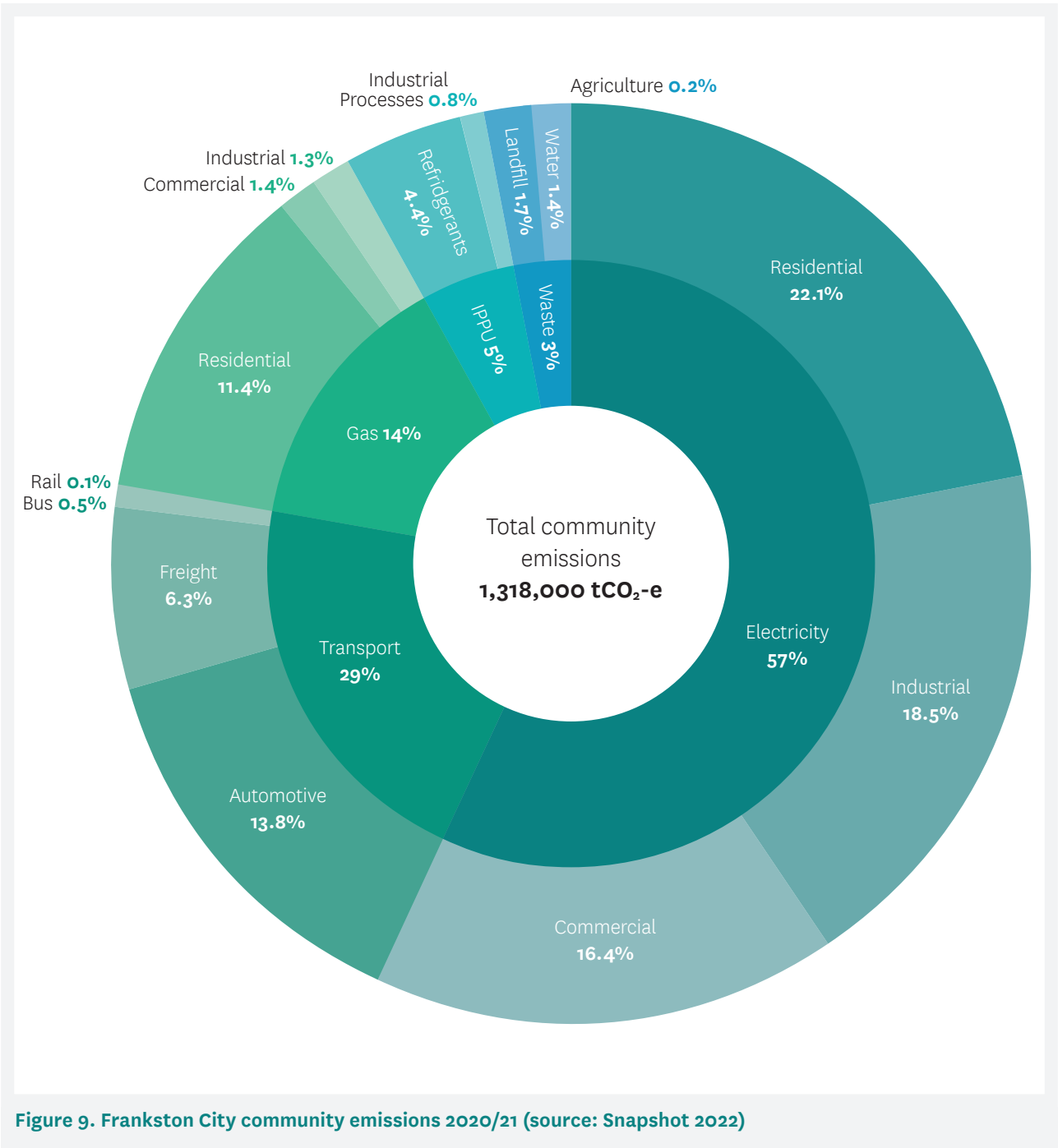


Figure 8. Council’s emission reduction pathway and target from 2020/21 to 2029/30

5. Frankston City's community emissions



For 2020/21, the main sources of emissions from the Frankston municipality shown in Figure 9 were from electricity (57%), transport (21%), gas (14%), IPPU¹⁰ (5%), and waste (3%). More specifically, the majority of the emissions were from residential electricity and gas consumption as well as on road transport¹¹.



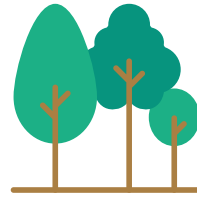
Council is taking action to support the community in avoiding and reducing emissions. The SECCCA alliance of councils, which Frankston City Council is a member of, have adopted a regional target to pursue efforts to limit the global average temperature increase to 1.5°C above pre-industrial levels.

Councils' role is as a facilitator of these transitions within the community and as an advocate for the required structural changes at the regional, state, and national level. As such, Council will support, enable and empower its community to meet this target as part of the delivery of this Strategy and in support of the Frankston City Council Community Vision 2040.

¹⁰ IPPU stands for industrial processes and product use sector
¹¹ The 'Snapshot Climate' community emissions tool developed by Ironbark Sustainability and Beyond Zero Emissions provides a national database of community emissions profiles for all local governments in Australia.

The 2020/21 community emissions profile indicates that actions for reducing community emissions should focus on:

- Continuing to improve energy efficiency in our homes and businesses; while increasing the proportion of renewable energy
- Providing education and support for the community to improve the sustainability of their homes
- Increasing the uptake of active transport modes such as walking, cycling and public transport
- Increasing the uptake of electric vehicles (particularly when powered through renewable energy)
- Providing education and support for residents¹² and businesses to plant native trees and plants¹³ to absorb carbon
- Facilitating regional collaboration to decarbonise businesses and industry
- Providing education on waste and the circular economy as well as support of community-led initiatives that divert waste from landfill (e.g. repair cafes, tool libraries, Men's Sheds, garage sale trails or second-hand markets, community gardens)
- Increasing ESD¹⁴ standards, updating regulations and supporting new developments to meet the higher standards.



20,000 trees

have been planted in 2021/22 across Frankston City's street reserves and open spaces



Introduced Council's **Kerbside Food & Garden Organics Service**

to reduce food waste going to landfill



Implementing **Environmentally Sustainable Design (ESD) standards**

across Council buildings and streetscapes

¹² Council operates a Frankston Indigenous Nursery, a community nursery specialising in producing quality indigenous plants from across the municipality

¹³ In October 2022, Frankston City Council approved new Nature Strip Planting Guidelines and removed fees for nature strip planting guidelines applications

¹⁴ In May 2022, Frankston City Council achieved an amendment to its Planning Scheme that introduced a new Environmentally Sustainable Development (ESD) Local Planning Policy

6. Frankston City climate vulnerability assessment



6.1 Climate change vulnerability

In developing this Strategy, Council undertook a vulnerability assessment focused on the physical risks that climate change poses to Council and the community. Taking into consideration the projected impacts of climate change on the region outlined in Chapter 2.1, we selected the most relevant ones and divided them into two categories; acute and chronic.

Effective climate adaptation efforts require a thorough understanding of Frankston City's key climate-related risks and vulnerabilities. We built that understanding by analysing the influence of climate stressors on the most vulnerable segments of our community, assets, infrastructure, services, and natural environment (categorised into systems and sub-systems)¹⁵. Using the expert local and operational knowledge of our staff, we assessed a total of 62 sub-systems against the physical impacts of climate change listed in Figure 10.

Understanding which climate stressors have the strongest impact on our municipality and which sub-systems are the most vulnerable¹⁶ helps us build resilience to said stressors and adapt more effectively. As a result, our adaptation actions are more targeted and their prioritisation more rigorous.

6.2 Primary and compound risks

Over the recent years, we have witnessed the large and rarely isolated effects caused by climate stressors. We saw the catastrophic destruction of the 2019/2020 Black Summer bushfires, which while burning over 20 million hectares of land, destroyed townships, decimated wildlife, and shrouded vast areas, including Frankston City, in smoke¹⁷. In 2022, we have watched as floodwaters returned to already devastated areas due to the relentless rainfall caused by consecutive phases of La Niña¹⁸.

Compound risks occur when two impacts happen simultaneously, or in quick succession. In some cases, a climate change impact can increase the likelihood and/or severity of another impact. For example, a prolonged drought can increase the likelihood and severity of sequential bushfires. The table below summarises the primary risks and compound risks associated with each of the key climate change impacts projected for Frankston City.

Acute (short-term)	Heatwaves	Floods	Bushfires	Storms
Chronic (long-term)	Sea level rise	Temperature and humidity increase (average)	Changes to rainfall patterns and associated increases in frequency and/or severity of droughts	

Figure 10. Acute and chronic impacts of climate change used in the vulnerability assessment








¹⁵ We defined specific categories (referred to as systems and sub-systems) relevant to Frankston City. These systems and sub-systems represent sections within our community, natural environment, assets and services that are vulnerable to climate change impacts. Relevant Council strategies, plans and datasets were reviewed to ensure that all sub-systems are adequately considered for climate change impacts. Key Council staff contributed to the scoring and validation process to accurately reflect Frankston City in the vulnerability analysis results.

¹⁶ The top 10 vulnerable sub-systems can be found in Appendix B.

¹⁷ Lawrence D, Ridders W, Houghton S, Hunt A, Bartlett J, Lawn S, Van Hooff M (2021) After the Fires: The impacts of the 2019-20 black summer bushfires on the wellbeing of emergency services personnel. Perth: Graduate School of Education, The University of Western Australia.

¹⁸ La Niña is a phase of the El Niño Southern Oscillation (ENSO) cycle that often brings wetter spring and summer to parts of Australia (see BoM 2022).

Table 2. Primary and compound risks caused by climate change

IMPACT	PRIMARY RISKS	COMPOUND RISKS
 Bushfires	<ul style="list-style-type: none"> • Injury, respiratory illness and death • Physical risks to emergency workers • Destruction of ecosystems (flora and fauna) • Damage to/destruction of built environment, infrastructure and communication systems 	<p>Drought: Drought conditions increase likelihood and intensity of bushfire/grassfire.</p> <p>Floods: Fire impacts on Seafood wetlands could result in loss of natural flood barrier.</p> <p>Heatwaves: Increased risk of prolonged fire season in hotter conditions, increased risk to emergency workers.</p> <p>Storms: Dust storms/high winds increase severity of fires and increase health risks from air pollution.</p>
 Drought/ low rainfall	<ul style="list-style-type: none"> • Loss of ecosystems, flora, and fauna • Degradation of wetlands 	<p>Floods and storms: Storms and heavy rainfall after droughts can lead to flash flooding, resulting in loss of flora and fauna, and damage to the built environment and infrastructure.</p>
 Floods	<ul style="list-style-type: none"> • Damage to the built environment, infrastructure and communication systems • Increased pressure on support services • Loss of amenity/access • Public health risks 	<p>Sea level rise: Coastal inundation results in loss or damage to infrastructure and buildings, services and access, and loss of coastal vegetation.</p>
 Heatwaves	<ul style="list-style-type: none"> • Dehydration, heat stress and heat stroke • Loss of habitat for flora and fauna • Loss of canopy cover worsens Urban Heat Island (UHI) • Loss of power resulting in facility closure/loss of cool spaces 	<p>Droughts: Prolonged droughts cause loss of habitat, and death of wildlife leading to ecosystem failure. This can lead to exacerbate UHI effects and associated health risks.</p> <p>Storms: Increased risk of 'thunderstorm asthma', predominantly in warmer months, impacting vulnerable populations.</p>
 Sea level rise	<ul style="list-style-type: none"> • Coastal inundation and erosion • Increased risk of flooding • Risks to infrastructure and communication systems • Reduced property values and insurability 	<p>Storms: Increasing storm surges damage property and natural environment.</p>
 Storms	<ul style="list-style-type: none"> • Physical risks to community and emergency workers • Loss of amenity or access • Loss or damage to infrastructure/communications/built environment • Flooding and pollution • Damage to natural environment (flora and fauna) and Aboriginal cultural heritage places 	<p>Storms: Increased frequency of storms and/or successive storms could weaken infrastructure and buildings, reduce capacity of support services and result in resources being diverted from other essential areas.</p>
 Heat and humidity	<ul style="list-style-type: none"> • Increased risk of various health conditions, due to changing environmental conditions 	<p>Bushfires: Overall increase in frequency and severity of bushfires, reduced adaptive capacity.</p>

6.3 Climate change adaptation priorities

We developed the below adaptation priorities tailored to Frankston City based on the stressors and risks identified in the vulnerability assessment. These priorities guided the development of our action plan and will help us identify the most suitable solutions to address our regional and local challenges.



Our biodiversity is significantly affected by climate change. More frequent extreme weather events and shifting seasonal patterns are likely to lead to potentially irreversible changes in our local habitat and threaten the environmental services they provide.



Our coastline is vulnerable to the impacts of sea level rise, storm surges and coastal inundation. The significant changes in coastal processes will cause erosion, loss of vegetation, cliff instability and impact beach accessibility.



Our community is already being affected by extreme weather events, with compound effects presenting high public health concern. Younger and older generations, as well as people with existing health conditions, are particularly vulnerable to the increasingly more common climate events such as heatwaves and smoke from bushfires.



Our Aboriginal cultural heritage and the ability of Aboriginal people to care for Country and practice culture are affected by the impacts of climate change. The adverse effects of climate stressors on Country threaten the identity and sense of belonging of Frankston City's Traditional Custodians.



Our infrastructure, built environment and the services they provide (e.g. buildings, drainage, roads and pathways, open spaces, electricity network) are under more pressure due to climate change, leading to disruptions and higher operating and repair costs.



Our homes need to be more resilient, especially those hard to heat or cool, which cannot easily adapt to or be protected from extreme weather events. The segments of our community living in rented accommodation, social and affordable housing, under mortgage or rental stress can struggle to make the necessary improvements and are particularly vulnerable.

7. Council and community actions

The identification and prioritisation of actions for the Climate Change Strategy was informed by four key stages and inputs in the strategy development process detailed in Table 3.



The actions were prioritised and categorised based on three levels – High, Medium and Low. It is expected that the high priorities will be delivered first, however, some actions may come forward, for example, due to project readiness, potential new sources of funding and/or partnerships, and other opportunities that would enable these actions to be delivered.

Table 3. Action Plan development stages and prioritisation process

ACTION PLAN DEVELOPMENT STAGES		PRIORITISATION CRITERIA
Emissions modelling	<p>Calculation of Council's operational emissions, and a review of community emissions (Snapshot) identified the key emission sources for both Council and the community.</p> <p>Actions that directly target key emission sources were given the highest priority.</p>	<p>IMPACT: Greenhouse Gas Emissions</p> <ol style="list-style-type: none"> 1. Does the action DIRECTLY, or INDIRECTLY reduce emissions 2. Is the action aimed at one of the major emission sources for Council or the community
Vulnerability assessment	<p>A vulnerability assessment was undertaken to determine the people, assets and systems most vulnerable to climate change in Frankston City.</p> <p>Actions that directly target one (or more) of the key vulnerabilities were given the highest priority.</p>	<p>IMPACT: Climate Vulnerability</p> <ol style="list-style-type: none"> 1. Does the action DIRECTLY, or INDIRECTLY address a key vulnerability 2. Does the action address one (or more) of the key vulnerabilities
Council staff consultation	<p>Internal consultation across Council departments was completed throughout the project, including presentations to Councillors, and one-on-one meetings with various teams to ensure that the actions are practical, achievable and in line with Council's other strategic plans and priorities.</p> <p>Actions that have a lower delivery complexity and are economically feasible were given highest priority.</p>	<p>FEASIBILITY: Delivery Complexity</p> <p>Are the enablers to the delivery of the action/program well or poorly understood? Are there minimal or significant barriers?</p> <p>FEASIBILITY: Economic</p> <p>Is the action/program expected to place a significant additional cost burden on Council, will significant additional funding and/or co-funding with another agency/entity be needed?</p>
Community engagement	<p>A range of community engagement activities were undertaken throughout the project. The online surveys in 2020 and 2022 garnered the most feedback. Participants were asked to prioritise areas of action (e.g. natural environment, renewable energy, transport, and waste) and their views on the type of actions Council should focus on.</p> <p>Actions that target community priorities were given the highest priority.</p>	<p>COMMUNITY PRIORITY</p> <p>Is the action/program related to a community priority (based on results from both the 2020 Climate Change Community Survey and the 2022 Climate Strategy Community Survey)?</p>

Theme 1: Leadership

“Show leadership and embed climate change in Council’s processes and operations.”

Council has a long history of taking climate action, leading and enabling our community and peers, and adapting our programs and decision making to a changing world.

Governments play a critical role helping their communities to reduce emissions and adapt to climate change.

Local governments are often the first to respond to localised climate change impacts, and their strong connections to the community and local knowledge mean they are often best placed to recognise the need for adaptation at a local scale.

DELWP 2021

We aim to be a climate leader to our staff, our community and other government bodies on climate action. We will take climate change mitigation and adaptation into consideration in every decision we make, and every service we deliver. We will aim to be a point of information, inspiration, and support for our residents and broader community. Theme 1 actions are listed in Table 4.

Case study 1: Renewable energy

In 2020, Council entered into a 10-year Power Purchase Agreement with the Bald Hills Wind Farm providing 100% renewable electricity for five of Council’s major facilities from 1 July 2020.

Action L3: Ensure Council’s electricity supply is sourced from 100% renewable energy and investigate the value of continuing with carbon neutral certified gas.



Case study 2: Planning policy

On 26 May 2022 a new local ESD planning policy amendment was introduced to ensure that new developments in Frankston City achieve best practice in environmental sustainability, from the design stage through to construction and operation.

Action E1: Continue to elevate Council’s Environmentally Sustainable Design requirements through the planning scheme and collaborate with developers to explore the feasibility of delivering net zero carbon buildings.



Table 4. Theme 1 Leadership actions

ID	ACTION	PRIORITY
L1	Update and continue to implement Council's ESD Standards for Council Buildings Policy so that it effectively addresses climate change and reflects best practice in environmentally sustainable design.	High
L2	Deliver climate change training and education to all Councillors and staff to ensure climate change considerations are embedded in Council decision-making.	High
L3	Ensure Council's electricity supply is sourced from 100% renewable energy and investigate the value of continuing with carbon neutral certified gas.	High
L4	Advocate for stronger climate action and funding from the State and Federal Governments on key issues and opportunities facing Frankston City and its communities (for example planning scheme changes, rebates, incentives and building retrofit programs).	High
L5	Update Council policies, strategies, plans and processes to ensure that they effectively address climate change risks while aligning their objectives to maximise the benefits of climate change mitigation and adaptation for Council and community.	High
L6	Continue to investigate the vulnerability of Council's drainage network, with key stakeholders and other government agencies, and assess the impacts of climate change, to inform the update of the drainage strategy and amendments to the overlays within Frankston Planning Scheme.	High
L7	Collaborate with relevant agencies, other Councils and advocate to the state government to make changes to the Victorian planning system to address climate change at all levels of the planning process to enable the delivery of safe climate and resilient communities.	High
L8	Improve Council's approach to sustainable procurement to reduce the carbon footprint of Council's supply chain and increase the uptake of low emission products and services.	Medium
L9	Monitor and publicly report on Council's greenhouse gas emissions annually and improve Council's methodology for carbon accounting, and energy and solar performance monitoring.	Medium
L10	Build an understanding of climate change impacts on Council buildings and other assets through assessments and reviews, and implement and monitor improvement actions addressing key risks to enhance resilience.	Medium
L11	Reduce emissions from Council's major service delivery contracts by encouraging the use of low and zero emission vehicles, improving processes, and requiring contractors to report annually on their emissions (e.g. asphalt, kerbside waste, facility management contracts).	Medium
L12	Include requirements to address climate change and environmental impacts in Council's tenancy agreements.	Medium
L13	Following investment and implementation of energy efficiency and solar to reduce Council's absolute emissions, review the cost benefit of Council achieving carbon neutral certification by 2030.	Low
L14	Continue to update Council's OH&S procedures Council's Work in Adverse Weather Procedure to ensure safety of Council staff while responding to an emergency during or after adverse weather events.	Low
L15	Review Council's Investment Policy to further encourage fossil fuel divestment, and support community members to make informed decisions to avoid financial institutions that invest in fossil fuels (e.g. banks, superannuation funds).	Low
L16	Embed climate change responsibilities into relevant Council staff roles, position descriptions and performance planning.	Low
L17	Look to electrify Council's small plant and equipment assets where fit-for-purpose.	Low

Theme 2: Transport

“Invest in and support the uptake of active and zero emissions transport.”

For both Council and the community, the transport sector represents a significant source of emissions.

Transport accounts for 29% of Council’s operational emissions, and 21% of Frankston City’s community emissions. On a national scale, transport is Australia’s third largest source of emissions, representing approximately 17% of the national total in 2021¹⁹.

Reducing transport-related emissions is a key pillar of climate action at all levels of government, and a key component of this Strategy. Council has identified a range of actions that will help the community and Council staff reduce their reliance on cars, while increasing the availability and practicality of low- or zero-emissions vehicles. All actions related to theme 2 are listed in Table 5.

Case study 3: EV charging stations

In 2022 Council finalised a regional electric vehicle (EV) charging roadmap with neighbouring councils identifying optimal locations for public EV charging stations in the south east. Council will be encouraging the EV industry, property owners and developers to install chargers in these locations to improve access to charging stations and encourage the increased uptake of EVs.

Action T2: Support the uptake of electric vehicles by advocating for and encouraging the installation of a regional public electric vehicle charging network charged from clean energy.



Case study 4: E-bike trial

In 2021 Council teamed up with Neuron to introduce a pedal assisted e-bike trial to Frankston City. The e-bikes provide our community and visitors with greater access to environmentally-friendly transport options, reducing the reliance on cars for short journeys. It is also a zero emissions transport initiative, certified by the Carbon Reduction Institute.

Action T1: Implement the Integrated Transport Strategy and prioritise the implementation of actions to accelerate the uptake of low and zero emissions transport options (i.e. walking, cycling and public transport).



Table 5. Theme 2 Transport actions

ID	ACTION	PRIORITY
T1	Implement the Integrated Transport Strategy and prioritise the implementation of actions to accelerate the uptake of low and zero emissions transport options (i.e. walking, cycling and public transport).	Medium
T2	Support the uptake of electric vehicles by advocating for and encouraging the installation of a regional public electric vehicle charging network charged from clean energy.	Medium
T3	Investigate and implement opportunities to encourage and incentivise households and businesses to transition to electric vehicles and other modes of low and zero emissions transport (e.g. information days, rebates, bulk buys).	Medium
T4	Increase the uptake of zero and low emission vehicles within Council’s fleet.	Medium
T5	Reduce Council vehicles and their usage through a range of organisational and technical solutions including active transport and online meetings. Use telematics and remote monitoring to better understand the opportunities.	Medium
T6	Investigate, and if feasible, facilitate and promote the establishment of a community car share scheme.	Low

¹⁹ <https://www.dcccew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-march-2021>

Theme 3: Energy

“Accelerate the transition to renewable energy and zero carbon buildings and assets.”

The replacement of fossil fuels with renewable energy is a critical step in moving towards net zero. Council plans to increase its solar power capacity and continue to purchase electricity from renewable energy sources. Council is also taking steps to ensure its buildings and assets are designed and operated with energy and water efficiency front of mind, and to support the community to improve the sustainability of their homes and businesses.

All actions that fall under theme 3 are listed in Table 6.

Case study 5: Solar powered Council buildings

Council has installed solar power on more than 60 of its buildings. As of June 2022, Council had over 600kW of solar power installed on its buildings.

Action E3: Continue to install solar power and battery storage opportunities (where feasible) across Council buildings and other assets, and improve monitoring of the systems.



Case study 6: Energy efficiency

Between 2019/20 and 2020/21 Council reduced its net emissions from 15,868 tonnes to 9,012 tonnes of CO₂-e (a 43% decrease). The significant decrease in emissions was mainly due to Council's investment in energy efficiency and renewable energy, and the Victorian electricity grid supplied with an increasing proportion of renewable energy.

Action E2: Continue to implement energy efficiency improvements across Council buildings.



Table 6. Theme 3 Energy actions

ID	ACTION	PRIORITY
E1	Continue to elevate Council's Environmentally Sustainable Design requirements through the planning scheme and collaborate with developers to explore the feasibility of delivering net zero carbon buildings.	High
E2	Continue to implement energy efficiency improvements across Council buildings.	High
E3	Continue to install solar power and battery storage opportunities (where feasible) across Council buildings and other assets, and improve monitoring of the systems.	High
E4	Explore with the operator of Peninsula Aquatic Recreation Centre and Pines Forest Aquatic Centre the opportunity to purchase 100% renewable energy for their electricity supply.	High
E5	Investigate, support and implement initiatives (such as bulk buys and rebates) to enable the community to make their homes and other buildings more energy efficient, switch to all electric appliances and systems, and install solar power.	High
E6	Transition Council's existing buildings to be all-electric using energy efficient electric appliances and systems (where fit-for-purpose), and abolish existing gas connections. No longer connect gas to new Council buildings.	Medium
E7	Transition all remaining public lights, street lights and sports lights to energy efficient LEDs, and utilise stand-alone solar power (where fit-for-purpose).	Medium
E8	Support innovative solutions for the community to transition to 100% renewable electricity (e.g. via power purchase, microgrid, virtual power plant or similar initiatives).	Medium

Theme 4: Natural environment

“Protect and adapt our natural environment and open space.”

Protecting our natural environment is vital in our efforts to mitigate and adapt to the impacts of climate change. Council plays a key role in protecting our local biodiversity and the functionality of our ecosystems. To achieve that, we will continue to enhance:

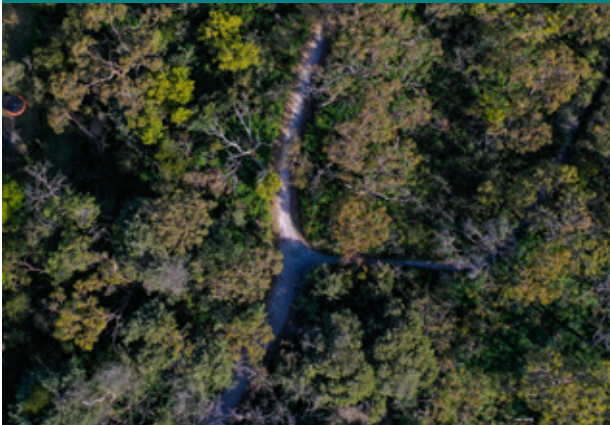
- Our understanding of our land and marine environments through collaboration with the Bunurong Land Council Aboriginal Corporation
- The management of our coastal areas that are undergoing significant changes in coastal processes
- Our street tree coverage to limit the ‘urban heat island’ effect
- Biodiversity of our open spaces and urban forest to increase their resilience to the climate stressors.

Theme 4 actions are listed in Table 7.

Case study 7: Frankston City Council Urban Forest Action Plan 2020-2040

Frankston City’s 20-year Urban Forest Action Plan is working to transform the City’s urban forest into a highly-valued, well-resourced and thriving asset. Our goal is to grow our tree canopy cover from 17% to 20% by 2040 with the first step being planting 80,000 trees by 2024. Working towards this goal, we have planted 15,000 street trees in 2020/21 and 20,000 trees in 2021/22.

Action N3: Continue to implement the Urban Forest Action Plan (2020) to increase the resilience of Council’s tree population and respond to urban ‘hot’ spots. Include the selection of species to withstand climate change impacts such as drought, increased temperatures, storm events and by making improvements to growing conditions.



Case study 8: Waste water

In 2021/22, close to 50% of Council’s total water usage was sourced from recycled wastewater. Using recycled water to irrigate the City’s open spaces helps to reduce pressure on precious drinking water supplies and improve water security for Frankston City. With average rainfall expected to decrease, saving water is essential to building community resilience.

Action N7: Improve the water security of Council’s open space, buildings and other assets by increasing access to sustainable water sources (e.g. rainwater, recycled water, stormwater), implementing water sensitive urban design principles and improving water efficiency across Council operations.



Table 7. Theme 4 Natural environment actions

ID	ACTION	PRIORITY
N1	Collaborate with and support the Bunurong Land Council Aboriginal Corporation (BLCAC) to coordinate climate change actions and land management opportunities within the community to incorporate cultural values and knowledge, and enable monitoring of the impacts on cultural values.	High
N2	Continue to advocate for State leadership and strategic investment in coastal climate change adaptation for example through partnership with Association of Bayside Municipalities (ABM).	High
N3	Continue to implement the Urban Forest Action Plan (2020) to increase the resilience of Council's tree population and respond to urban 'hot' spots. Include the selection of species to withstand climate change impacts such as drought, increased temperatures, storm events and by making improvements to growing conditions.	High
N4	Monitor the municipality's flora and fauna populations and the quality of their habitat. Develop and implement holistic action plans that investigate and respond to climate change effects on our ecosystems for example pest management, heat stress and resource availability.	High
N5	Aligning with the Coastal and Marine Management Plan (2023), develop coastal adaptation pathways and management actions. Incorporate best available research and data into decision making. Use this data to ensure there are mechanisms to manage coastal hazard exposure including sea level rise, erosion, inundation and groundwater impacts.	High
N6	Update Council's Integrated Water Action Plan (2016-2026) to prioritise investment in integrated water initiatives, including stormwater quality treatment assets so they are effective in treating polluted water before it enters the waterways and bay.	High
N7	Improve the water security of Council's open space, buildings and other assets by increasing access to sustainable water sources (e.g. rainwater, recycled water, stormwater), implementing water sensitive urban design principles and improving water efficiency across Council operations.	Medium
N8	Support local food security through promoting community gardens, home gardening, food sharing and education on sustainable practices and soil health.	Medium
N9	Foster relationships and collaborate with regional organisations to identify and address local environmental issues and reduce threats to biodiversity. In line with the Biodiversity Action Plan (2021) deliver engagement with sporting clubs and community groups to broaden the range of communities involved in biodiversity conservation.	Medium
N10	In line with the Biodiversity Action Plan (2021), encourage the development of an Urban Landcare and/or Youth Landcare Group. Collaborate with existing groups to foster sustainable land practices, protection and enhancement of our natural environment as well as to partner in seeking external funding opportunities.	Medium
N11	Develop a priority list of areas for water sensitive urban design delivery where increased vegetation could ameliorate nuisance flooding.	Medium
N12	Explore carbon sequestration opportunities within the City's blue-green infrastructure and assets. Continue to work with other agencies across the region to identify the potential for accredited carbon offset projects.	Medium
N13	Investigate the feasibility of increasing the capacity of Council's Indigenous Nursery and its development as a hub for biodiversity conservation, supporting residents and businesses to plant native trees and plants to absorb carbon and provide shade.	Low

Theme 5: Community

“Build the community’s capacity for climate action and resilience to the impacts of climate change.”

Council plays a key role in supporting and enabling Frankston City’s community to reduce emissions and adapt to a changing climate. We will continue to work in partnership with local service providers, other levels of government and our regional alliances to:

- Progress climate action and effectively address the climate emergency
- Support and facilitate community programs to build climate literacy and emergency preparedness
- Expand Council’s community grants program
- Offer incentives for the community to reduce their emissions and become more climate resilient.

All actions related to theme 5 are listed in Table 8.

Case study 9: Environmental Sustainability Grants

Frankston City Council, through its Environmental Sustainability Grant program, offers funding of up to \$5,000 to support community groups and organisations with environmental and sustainability projects.

Action C3: Research, and implement where practicable, a dedicated climate action funding program to enable and support local collective action on climate change.

Case study 10: Community workshops

Between 2019/20 and 2021/22 Council officers engaged with over 2,000 attendees through a series of successful community workshops, events and outreach activities on energy efficiency, renewable energy and other emission reduction activities.

Action C7: Support community programs to connect people, increase their knowledge of the climate emergency and provide skills for effective advocacy and action.

Case study 11: Environmental Upgrade Finance (EUF)

In 2021/22 Council introduced EUF for local businesses. EUF offers businesses access to low interest loans collected through the Council rate system to implement environmental building upgrades to their properties. These improvements reduce operating costs and improve environmental outcomes.

Action C4: Continue to offer and promote Environmental Upgrade Finance (EUF) for local businesses and investigate the merit of introducing EUF for residents.

Table 8. Theme 5 Community actions

ID	ACTION	PRIORITY
C1	Continue to collaborate with the South East Councils Climate Change Alliance (SECCCA) and other relevant organisations to partner and support Council and community emissions reduction and adaptation projects and initiatives.	High
C2	In collaboration with the Bunurong Land Council Aboriginal Corporation, undertake an Aboriginal Cultural Values assessment of significant sites to identify and record Aboriginal knowledge and practices, cultural landscapes, places and Country and how they are impacted by climate change. Support Frankston City’s Aboriginal people to access and care for Country and culture, and identify adaptation solutions to protect them.	Medium
C3	Research, and implement where practicable, a dedicated climate action funding program to enable and support local collective action on climate change.	Medium
C4	Continue to offer and promote Environmental Upgrade Finance (EUF) for local businesses and investigate the merit of introducing EUF for residents.	Medium
C5	Investigate the feasibility of introducing rebates and other incentives for the community to install rainwater tanks and water efficiency measures in their homes and buildings.	Medium
C6	Support and facilitate community programs focused on building emergency preparedness and resilience to the impacts of climate change, particularly with residents most at risk.	Medium
C7	Support community programs to connect people, increase their knowledge of the climate emergency and provide skills for effective advocacy and action.	Medium

ID	ACTION	PRIORITY
C8	Explore partnerships with service providers to address vulnerabilities of communities most at risk of being adversely affected by climate change.	Medium
C9	Investigate the feasibility of an educational display centre in Frankston to demonstrate practical examples of what the community can do in their own homes to lead a zero carbon lifestyle and live more sustainably, and act as a community meeting place for environmental volunteers.	Low

Theme 6: Waste

“Advance the transition towards zero waste and a circular city”

Council is committed to improving the management of solid waste and diversion of waste from landfill. The introduction of a kerbside food and garden waste service has been the first step in our transition toward a more sustainable future. All actions relating to theme 6 can be found in Table 9. We are currently investigating how to best apply the principles of a circular economy in our municipality and support our community in the transition to a circular city. These efforts will:

- Increase environmental sustainability (e.g. by turning food waste into compost)
- Protect human and environmental health
- Meet the community’s need for efficient and accessible waste services by recycling more resources
- Ensure cost-effectiveness and increase resource recovery (e.g. through promotion of sharing services, repair workshops, training programs and reusable product rebates).

Case study 12: Food Organic and Garden Organics (FOGO) Service

Since the introduction in 2019/20, Frankston City has seen participation increase to over 10,000 dwellings as seen through our caddy and liner supplies. The food waste is collected and processed into compost for use by farmers and gardeners throughout Victoria, resulting in diversion of waste from landfill and a significant reduction in methane emissions.

Action W2: Increase uptake of household food organics and garden organics (FOGO) kerbside collection and investigate the feasibility of a food waste collection service for businesses. Implement a system to divert food waste from Council operations. Support home composting through education programs and assess the feasibility of a rebate scheme.

Case study 13: Waste Circularity Plan

As part of its work on the Waste Circularity Plan in 2022/23, Council is exploring several waste circularity initiatives to reduce the amount of waste going to landfill, ranging from resource recovery and improved recycling to reusing and repairing household items.

Action W1: Continue to promote waste avoidance, diversion from landfill, and expand recycling and resource recovery opportunities in line with Council’s Waste Circularity Plan (2023). Explore opportunities in Advanced Waste Processing solutions to reduce waste to landfill.

Table 9. Theme 6 Waste actions

ID	ACTION	PRIORITY
W1	Continue to promote waste avoidance, diversion from landfill, and expand recycling and resource recovery opportunities in line with Council's Waste Circularity Plan (2023). Explore opportunities in Advanced Waste Processing solutions to reduce waste to landfill.	High
W2	Increase uptake of household food organics and garden organics (FOGO) kerbside collection and investigate the feasibility of a food waste collection service for businesses. Implement a system to divert food waste from Council operations. Support home composting through education programs and assess the feasibility of a rebate scheme.	Medium
W3	Develop a monitoring or auditing process for waste in Council buildings to inform Council's waste reduction efforts, reduce emissions and improve Council's emissions reporting.	Low
W4	Provide community education and support of reuse, repair and share options – such as repair cafes, tool libraries, Men’s Sheds, Charity Shops, Garage Sale Trail or second-hand markets.	Low

8. Community engagement

To ensure that the Climate Change Strategy aligned with the values and priorities of our community, we completed a comprehensive engagement process, providing a range of opportunities for discussion, information sharing and feedback. We used the engagement principles summarised in Table 10 to guide our consultation.



	Purpose The community engagement process for this project sought to understand our Community's motivation and priorities for climate action as well as identifying how Council can support its residents in achieving their carbon neutrality and resilience goals.
	Informed Participants have had access to objective, relevant and timely information through resources featured on the Engage Frankston page.
	Representative The community survey participants had a representation of residents across all suburbs. Due to the under-representation of youth in the online survey, two youth workshops were conducted to increase the cohort's representation.
	Supported Participants were supported to enable meaningful and informed engagement.
	Influence Participants were informed of the ways in which the engagement process will help shape the Strategy development. The structure of the online survey itself focused on action planning and prioritisation, making it easier for the survey responses to influence the action plan.
	Report Each phase of the engagement was reported on with a summary made accessible on Engage Frankston.






Table 10. Engagement principles

8.1 Climate Change Community Survey 2020

Shortly after Council declared a Climate Emergency in 2019, we started engaging our community to gauge their concerns and needs in regards to climate change and climate action. In 2020, we completed a Climate Change Community Survey²⁰ that informed both the project planning and the priorities of this Strategy. A summary of the findings are provided below.

80% of respondents were 'extremely concerned' or 'very concerned' about climate change.

While there is generally a high level of concern amongst respondents across all global climate change impacts, survey respondents are mostly concerned about the following local impacts of climate change:

-  Loss of biodiversity/flora & fauna/vegetation/habitat
-  Sea level rise and/or coastal erosion
-  Harsher and longer fire seasons/bushfires
-  Extreme weather events
-  More hot days and heatwaves/drought

Survey respondents identified the following four areas as the most important for Council to work on to address climate change:

-  Preserving and enhancing **biodiversity** and urban forests
-  Avoiding and reducing **waste**
-  Increasing **renewable energy** use
-  Achieving **sustainable** buildings and homes

²⁰ The full Climate Change Community Survey 2020 Report can be found on the Council website.

Respondents would like Council to support community climate action by:



By providing advice and incentives to help people make their homes and other buildings more energy efficient.



By providing grants for community groups to work on environmental projects that address climate change issues, e.g. to reduce emissions, increase vegetation, trees, etc.



By advocating on behalf of the community for climate action (e.g. to the State and Federal Government).

8.2 Climate Smart Frankston City 2022

Between May and September 2022, Council conducted a range of face-to-face and online engagement to help shape the Strategy. The full list of activities can be found in Appendix C. A second community survey²¹ was conducted that focused on identifying what type of actions is our community already doing and which areas would benefit from additional Council support. The feedback gained throughout these events and the community survey informed the identification and prioritisation of actions within the Strategy. The top 10 actions that participants would like to see implemented by Council are:

1. Standards for new buildings

Improve the energy efficiency standards of new buildings and renovations by working with developers, State and National bodies, and other councils to improve development standards.

2. Strengthening coastal areas

Finalise Coastal and Marine Management Plan addressing pollution of the marine environment from stormwater, coastal erosion, and risk from storm surges to local residents as sea levels rise.

3. Renewable energy

Support businesses and residents to get a good deal on switching to renewable energy (e.g. energy from wind and solar) through a collective power purchase.

4. Reduce waste

Continue to promote waste avoidance, diversion from landfill and recycling and resource recovery through community education and engagement programs. Less waste also creates a more resilient environment when faced with climate impacts.

5. Protect native flora and fauna

Implement the Biodiversity Action Plan and investigate ways to prevent loss of native biodiversity from climate-related impacts such as droughts, heatwaves, and floods.

6. Renewable energy

Investigate bulk-buy programs for batteries, solar power, heat pumps and other renewable technologies for residents and businesses.

7. Divert waste

Promote Frankston's food organics & garden organics (FOGO) kerbside collection service to reduce food waste and associated landfill emissions from community waste.

8. Tree planting

Implement the Urban Forest and Biodiversity Action Plans, e.g. for planting trees to store carbon, provide shade and habitat, improve water retention.

9. Tree planting

Support residents and businesses to plant native trees and plants at home or in the local area to absorb carbon and provide shade.

10. Waste to Energy

Explore opportunities in Advanced Waste Processing solutions to reduce waste to landfill.

8.3 What you told us

"If Frankston Council is serious about fighting climate change it needs to have more trees and gardens to provide shade and less buildings that absorb and release heat. That means stop approving subdivisions and multiple units per building block."

"To install or purchase products such as electric vehicles and solar batteries more information and financial support is required. I would purchase an electric vehicle for my next car but to do this we need access to charging stations in our home and in the community."

"If all households were provided with a garden waste bin as part of their rates rather than as an option, this would help reduce the amount of vegetation and food scraps that are going into landfill where they create greenhouse gases."

"Frankston City would benefit from more bike paths to make it safer and easier for people to ride/walk to school or work instead of driving."

²¹ A full Climate Smart Frankston City Engagement Report can be found on Council's Engage Frankston website.

"We would love the council to host clear lists of places that support recycling of items that aren't included within council collection. For example, Officeworks takes a range of electronic goods, and there are specific nurseries that will take plastic plant pots. Hosting these on the site would support more recycling opportunities for the community."

"I'm a renter, so I feel there is little that I can do on my own. Without knowing that I'll be here longer term I can't afford to invest thousands of dollars upgrading someone else's asset, but ideally I'd love to get off natural gas and have a 100% electric / renewable home, with solar panels and 100% govt accredited GreenPower. I think this is a huge area of untapped opportunity, given how many people rent in Frankston, but also something that is unlikely to happen without significant government incentives."

"Engage youth in community and climate decision making. Invite project ideas from schools and community. Advertise clearly how people can get involved, when and with whom. Add sunshades and water collection on all buildings over a certain size for garden maintenance. Incentivise curb nature strips for home owners."

"It would be great if we could stop removing trees and plant more in public spaces including the CBD improvement areas. We should be utilising every available space to plant native species, particularly those that support life and regeneration."

"If would be great to have a display home in Frankston City that has energy saving devices installed so it demonstrates to the public what they can do in their own homes to improve energy efficiency. It does not have to be a new house as it would be good to show how to retrofit energy saving ideas to existing homes and would also provide ideas for renters."

8.4 Asset Plan 2023-2032 guiding principles

Frankston City Asset Plan 2023-2032 was developed with input from our community via detailed deliberative engagement process²². A dedicated community panel was established in early 2022 and comprised of 49 residents of diverse backgrounds. It served to identify the key principles by which Frankston City should prioritise and invest in its assets over the next 10 years. The panel developed eight principles across four themes shown below.

The community consultation was undertaken in March 2022 to engage, collaborate and inform the development of the Plan. Following the inclusion of the outcomes from the engagement conducted with the community panel, the draft Asset Plan was exhibited for broader community feedback in April 2022.

Various changes have been made throughout the Asset Plan and to the eight core principles based on the community feedback received during the public exhibition. The Asset Plan was adopted by the Council at its general meeting on 6th June 2022.

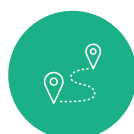


Theme: Public space and nature

Open spaces that are universally accessible to all members of the public.

Principles:

- Promote and improve public space for optimal use and ensure spaces are equitably accessible across the municipality
- Increasing percentage of green space in public spaces.



Theme: Connectivity and accessibility

Assets that support connection and accessibility for a wide range of people.

Principles:

- Provide, maintain and advocate for infrastructure and services that enable all residents and visitors to move easily, safely and comfortably around the Municipality and surrounding areas
- Efficient, accessible services and connections that are fit for purpose with the ability to adapt to current and future community needs, through the support of technologies and systems.



Theme: Sustainability/climate change resilience

Assets that respond to and integrate climate change considerations and resilience.

Principles:

- Invest in the protection, enhancement and balance of the natural environment and wildlife to ensure sustainability for future generations
- Invest in technologies and strategies that utilise sustainable energy and promote resilience to climate change.



Theme: Facilities meet community needs

Facilities and buildings to meet current and future community needs.

Principles:

- Invest in transparent information and community engagement to ensure the diversity of community needs are met now and in future to inform facility/asset design.
- Accessible, environmentally sustainable facilities that ensure safety and inclusivity throughout a community's and individuals' life.

²² Go to the Asset Plan 2023-2032 Engage Frankston page for further information about the process and its outcomes

9. Monitoring and reporting

The Strategy will form part of Council's integrated planning and reporting framework shown in Figure 11.



Council will report on progress of the actions within the Strategy every year and to assist in this reporting, Council will:

- Develop a monitoring and evaluation framework for reporting on progress against the Strategy
- Monitor Council and community emissions and report publicly on an annual basis
- Implement processes to improve access to other important data sources
- Review and update actions to incorporate new data and information (such as those gained through feasibility studies) to ensure that Council stays on track to meet or exceed the ambition set out by the action plan upon the adoption of this Strategy.

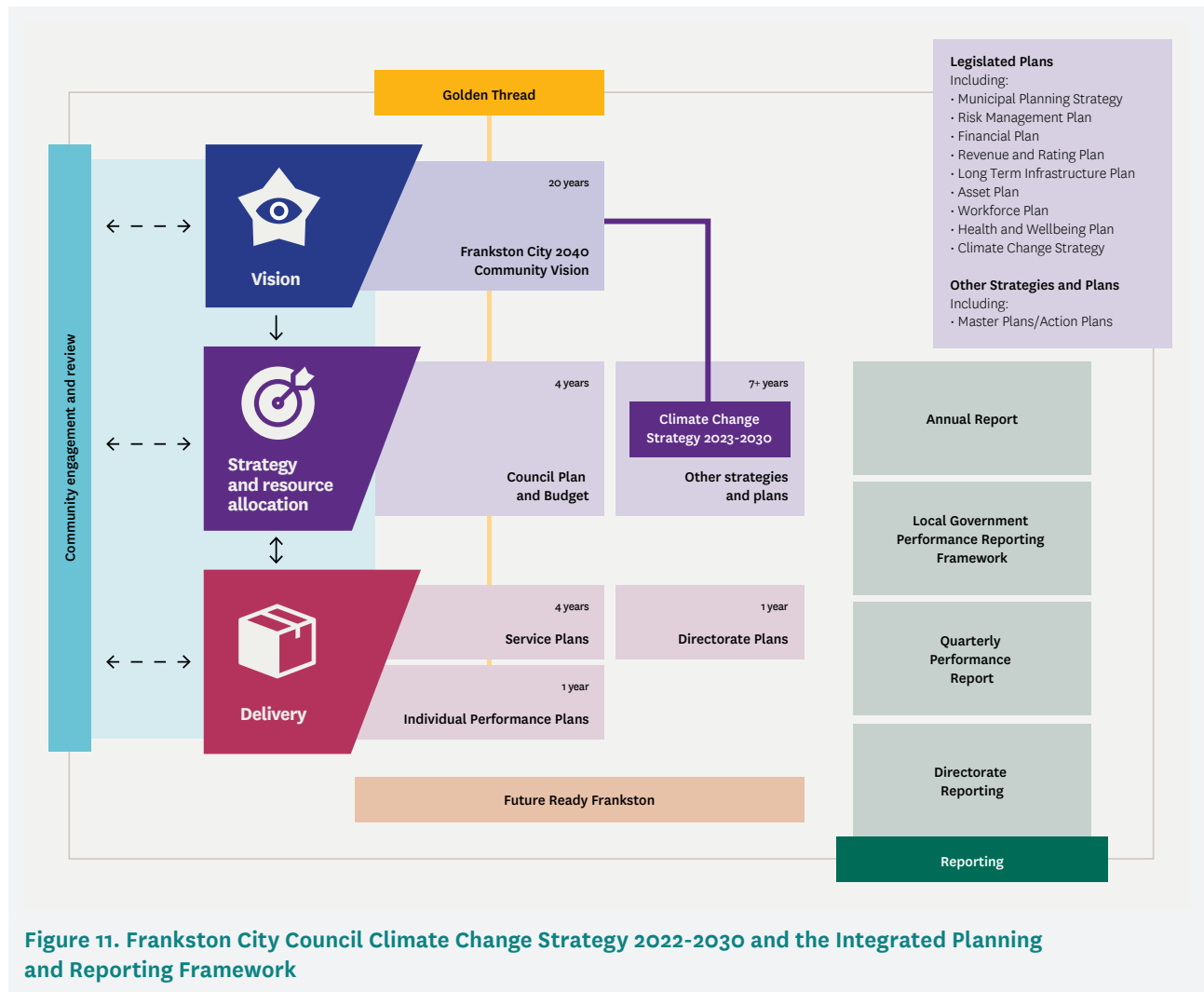


Figure 11. Frankston City Council Climate Change Strategy 2022-2030 and the Integrated Planning and Reporting Framework

Glossary and abbreviations

TERM	MEANING
ABM	ABM stands for the Association of Bayside Municipalities. ABM is an unincorporated association of the councils that have frontage to, and are affected by the tidal influences of, Port Phillip Bay. The ABM operates under the auspices of the Municipal Association of Victoria and is recognised as the key representative of local government in relation to the health and sustainable management of Port Phillip Bay. Through its advocacy and action, the ABM works together on a regional basis focused on marine and coastal matters of common interest to Member councils. ²³
Active transport	Active transport is defined as physical activity undertaken as a means of transport and not purely as a form of recreation. Active transport generally refers to walking and cycling for travel to and/or from a destination, but may also include other activities such as the incidental activity associated with the use of public transport. ²⁴
Carbon neutrality	This means that the net emissions are equal to zero, through a combination of emission reductions and offsetting of unavoidable (remaining or residual) emissions.
Carbon offsets	A carbon offset is an investment in a project or activity that reduces greenhouse gas emissions or sequesters carbon from the atmosphere, used to compensate for emissions from an entity's activities.
Circular economy	A circular economy continually seeks to reduce the environmental impacts of production and consumption, while enabling economic growth through more productive use of natural resources. It allows us to avoid waste with good design and effective recovery of materials that can be reused. The value people obtain from the resources used to create goods and services increases. It transforms our linear economy mindset – take, use and throw away – and fosters innovation and productivity that invigorates existing businesses and creates new ones, delivering more jobs, more growth and more social inclusion to the local, regional, state and global economies. ²⁵
Climate change adaptation	Climate change adaptation means adjusting to the actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. ²⁶
Climate change mitigation	Climate change mitigation is human intervention to reduce emissions or enhance the sinks of greenhouse gases. ²⁷
Climate scenarios	Climate scenarios provide a plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g. rate of technological change, prices) and relationships. Scenarios are neither predictions nor forecasts, but are used to provide a view of the implications of developments and actions. ²⁸
Community emissions	Community emissions relate to the greenhouse gas emissions produced by the Frankston municipality (e.g. by Frankston City residents and businesses).
DEECA (previously DELWP)	DEECA stands for Department of Energy, Environment and Climate Action. DEECA was formed from the previous Department of Environment, Land, Water and Planning (DELWP) in December 2022. It is a government department in Victoria that is responsible for the portfolios of Climate Action, Energy and Resources, State Electricity Commission, Environment, Water and Agriculture. ²⁹
ESD	ESD stands for environmentally sustainable design. ESD seeks to reduce the negative impacts of buildings on the environment and improve the health and comfort of building occupants, thereby improving building performance. The basic objectives of ESD are to reduce the consumption of non-renewable resources, minimise waste, reduce ecological impact, and create healthy, productive environments. While ESD is focused on achieving environmentally sustainability outcomes, it is also widely recognised as having many other benefits, for example: reduced operation and maintenance costs, improved comfort for building occupants, potential for higher property returns, as well as future proofing assets against the projected impacts of climate change. ³⁰

23 <https://abm.org.au/about-abm-2>

24 https://www.vichealth.vic.gov.au/-/media/programsandprojects/physicalactivity/attachments/active_transport_fact.ashx

25 <https://engage.vic.gov.au/circulareconomy>

26, 27, 28 [https://www.ipcc.ch/sr15/chapter/glossary/#:~:text=Emissions%20of%20greenhouse%20gases%20\(GHGs,waste%20management%20and%20industrial%20processes](https://www.ipcc.ch/sr15/chapter/glossary/#:~:text=Emissions%20of%20greenhouse%20gases%20(GHGs,waste%20management%20and%20industrial%20processes)

29 <https://www.delwp.vic.gov.au>

30 https://www.frankston.vic.gov.au/files/assets/public/your-council/about-us/policies-strategies-plans/pdf/council_policy_current_-_environmentally_sustainable_design_esd_standards_for_council_buildings_final_adopted_signed_-_17_february_2020.pdf

TERM	MEANING
EUF	EUF stands for environmental upgrade finance. EUF is a type of loan provided by Council to Frankston City's businesses to help fund upgrades that address climate change and reduce energy and water costs. These loans could be spent on a range of initiatives, such as installing solar panels and electric vehicle charging stations, implementing water efficiency initiatives, to replacing lighting. ³¹
Fleet	Are all Council owned vehicles which consist of passenger vehicles, light commercial vehicles, trucks and buses, heavy plant and equipment, plus minor plant.
FOGO	FOGO stands for food organics and garden organics. FOGO is considered any food waste including fruit and vegetable scraps, processed food and leftovers from meals such as meat, fish, chicken, bread, egg, egg shells, dairy products, coffee grounds and tea bags. Garden waste can include grass clippings, flowers and herbs, small branches and leaves. Paper towel, compostable plates, and compostable bags can also be disposed of through a FOGO service. ³²
GHG	Greenhouse gases (GHGs) are gases in the earth's atmosphere that absorb and emit radiation. GHGs include carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), sulphur hexafluoride (SF ₆) and specified kinds of hydro fluorocarbons and perfluorocarbons. High concentrations of GHGs in the atmosphere contribute to climate change.
Emissions	GHG emissions are produced from a broad range of activities, such as energy production, transport, agriculture and industrial processes. Humanity's GHG emissions have become very high since the industrial revolution, which is causing climate change. Other names: carbon emissions.
Global warming	Global warming is a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over a comparable time period. ³³ Other names: Climate change, global heating.
Greenhouse Gas Protocol Corporate Accounting and Reporting Standard	It is one of world's most widely used greenhouse gas accounting standards that establishes a comprehensive global standardised approach to measure and manage emissions from private and public sector operations, value chains and mitigation actions.
Grid decarbonisation	Grid decarbonisation is the reduced emission intensity of electricity purchased from the electricity grid due to an increased proportion of renewable energy, and a decreased proportion of energy from fossil fuels (e.g. coal fired power plants).
IPCC	IPCC stands for the Intergovernmental Panel on Climate Change. The IPCC is the United Nations body for assessing the science related to climate change. ³⁴
Landfill	Landfill refers to the final placement of waste in or on the land in a controlled or uncontrolled way according to different sanitary, environmental protection and other safety requirements. ³⁵
LED	LED stands for light emitting diode. LED lighting products produce light up to 90% more efficiently than incandescent light bulbs. ³⁶
Low carbon economy	An economic system that produces low levels of GHG emissions.
Net zero	Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period. ³⁷

31 <https://www.frankston.vic.gov.au/Council/News-and-media/Latest-News/Media-Releases-2021/Councils-%E2%80%98green-light-for-environmentally-friendly-upgrades>

32 <https://engage.frankston.vic.gov.au/waste-circularity-plan>

33 <https://unfccc.int/resource/ccsites/zimbabwe/conven/text/arto1.htm>

34 <https://www.ipcc.ch>

35 <https://stats.oecd.org/glossary/detail.asp?ID=1495>

36 https://www.energystar.gov/products/lighting_fans/light_bulbs/learn_about_led_bulbs

37 <https://www.ipcc.ch/sr15/chapter/glossary>

TERM	MEANING
OH&S	OH&S stands for occupational health and safety. This involves the management of risks to the health and safety of everyone in a workplace, such as employees, customers, visitors and suppliers. ³⁸
Operational GHG emissions	Operational GHG emissions are the emissions associated with Council's provision of services.
Pre-industrial	Pre-industrial refers to the multi-century period prior to the onset of large-scale industrial activity around 1750, when the industrial revolution began. ³⁹ This period is often talked about in the context of the earth's temperature.
Paris Agreement	The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) was adopted on December 2015 in Paris, France, at the 21st session of the Conference of the Parties (COP) to the UNFCCC. The agreement, adopted by 196 Parties to the UNFCCC, entered into force on 4 November 2016 and as of May 2018 had 195 Signatories and was ratified by 177 Parties. One of the goals of the Paris Agreement is 'to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.', recognising that this would significantly reduce the risks and impacts of climate change. Additionally, the Agreement aims to strengthen the ability of countries to deal with the impacts of climate change. ⁴⁰
Renewable energy	Renewable energy is generated from sources such as wind, solar, hydro, wave and biomass, which produce no net greenhouse gas emissions and are not finite resources. Centralised renewable energy includes large-scale solar and wind farms and hydro schemes. Distributed renewable energy such as solar panels and small-scale wind turbines are typically installed on buildings and other assets to generate electricity to supplement or fully supply electricity needs. These low-carbon industries can transform and develop the energy sector in our traditional market-based economy to significantly cut the amount of greenhouse gas emissions released into the atmosphere.
SECCCA	SECCCA stands for the South East Councils Climate Change Alliance. SECCCA is a network of councils committed to delivering high-quality, innovative projects and research programs at a regional level. SECCCA is an incorporated association that collaborates with all levels of government to deliver regional climate change projects that benefit over 1 million residents in the south east of Melbourne. ⁴¹
Sequestration	Sequestration is storing carbon in geological, biological, mineral and ocean reservoirs. This carbon is captured by either removing carbon from the atmosphere, or separating carbon at the point of origin and storing it to prevent it entering the atmosphere. ⁴²
Science-based target	Science-based targets provide a clearly-defined pathway for companies and financial institutions to reduce GHG emissions, helping prevent the worst impacts of climate change and future-proof business growth. Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement. ⁴³
Solar power/Solar PV	Solar power (or solar PV) means solar photovoltaic (PV) systems. Solar PV systems capture the energy of sunlight which is converted into electricity. ⁴⁴
UHI	<p>UHI stands for urban heat island. A UHI is a metropolitan area that's a lot warmer than the rural areas surrounding it. Often, they occur in places that have lots of activity and lots of activity, such as big cities. There are many reasons for UHIs, for example:</p> <ul style="list-style-type: none"> • When houses, shops, and industrial buildings are constructed close together. Building materials are usually very good at insulating, or holding in heat. This insulation makes the areas around buildings warmer. • When 'waste heat' is produced from people, tools, cars and factories. The energy people burn off usually escapes in the form of heat.⁴⁵

38 <https://business.gov.au/risk-management/health-and-safety>

39 <https://www.ipcc.ch/sr15/chapter>

40 <https://www.ipcc.ch/sr15/chapter/glossary>

41 <https://www.seccca.org.au/>

42 <https://www.climatechangeauthority.gov.au/news/australias-carbon-sequestration-potential>

43 <https://sciencebasedtargets.org/how-it-works>

44 <https://www.yourhome.gov.au/energy/photovoltaic-systems>

45 <https://education.nationalgeographic.org/resource/urban-heat-island>

Action register

ID	THEME	ACTION	PRIORITY
L1	Show leadership and embed climate change in Council's processes and operations	Update and continue to implement Council's ESD Standards for Council Buildings Policy so that it effectively addresses climate change and reflects best practice in environmentally sustainable design.	High
L2		Deliver climate change training and education to all Councillors and staff to ensure climate change considerations are embedded in Council decision-making.	High
L3		Ensure Council's electricity supply is sourced from 100% renewable energy and investigate the value of continuing with carbon neutral certified gas.	High
L4		Advocate for stronger climate action and funding from the State and Federal Governments on key issues and opportunities facing Frankston City and its communities (for example planning scheme changes, rebates, incentives and building retrofit programs).	High
L5		Update Council policies, strategies, plans and processes to ensure that they effectively address climate change risks while aligning their objectives to maximise the benefits of climate change mitigation and adaptation for Council and community.	High
L6		Continue to investigate the vulnerability of Council's drainage network, with key stakeholders and other government agencies, and assess the impacts of climate change, to inform the update of the drainage strategy and amendments to the overlays within Frankston Planning Scheme.	High
L7		Collaborate with relevant agencies, other Councils and advocate to the state government to make changes to the Victorian planning system to address climate change at all levels of the planning process to enable the delivery of safe climate and resilient communities.	High
L8		Improve Council's approach to sustainable procurement to reduce the carbon footprint of Council's supply chain and increase the uptake of low emission products and services.	Medium
L9		Monitor and publicly report on Council's greenhouse gas emissions annually and improve Council's methodology for carbon accounting, and energy and solar performance monitoring.	Medium
L10		Build an understanding of climate change impacts on Council buildings and other assets through assessments and reviews, and implement and monitor improvement actions addressing key risks to enhance resilience.	Medium
L11		Reduce emissions from Council's major service delivery contracts by encouraging the use of low and zero emission vehicles, improving processes, and requiring contractors to report annually on their emissions (e.g. asphalt, kerbside waste, facility management contracts).	Medium
L12		Include requirements to address climate change and environmental impacts in Council's tenancy agreements.	Medium
L13		Following investment and implementation of energy efficiency and solar to reduce Council's absolute emissions, review the cost benefit of Council achieving carbon neutral certification by 2030.	Low
L14		Continue to update Council's OH&S procedures Council's Work in Adverse Weather Procedure to ensure safety of Council staff while responding to an emergency during or after adverse weather events.	Low

ID	THEME	ACTION	PRIORITY
L15	Show leadership and embed climate change in Council's processes and operations	Review Council's Investment Policy to further encourage fossil fuel divestment, and support community members to make informed decisions to avoid financial institutions that invest in fossil fuels (e.g. banks, superannuation funds).	Low
L16		Embed climate change responsibilities into relevant Council staff roles, position descriptions and performance planning.	Low
L17		Look to electrify Council's small plant and equipment assets where fit-for-purpose.	Low
T1	Invest and support the uptake of active and zero emissions transport	Implement the Integrated Transport Strategy and prioritise the implementation of actions to accelerate the uptake of low and zero emissions transport options (i.e. walking, cycling and public transport).	Medium
T2		Support the uptake of electric vehicles by advocating for and encouraging the installation of a regional public electric vehicle charging network charged from clean energy.	Medium
T3		Investigate and implement opportunities to encourage and incentivise households and businesses to transition to electric vehicles and other modes of low and zero emissions transport (e.g. information days, rebates, bulk buys).	Medium
T4		Increase the uptake of zero and low emission vehicles within Council's fleet.	Medium
T5		Reduce Council vehicles and their usage through a range of organisational and technical solutions including active transport and online meetings. Use telematics and remote monitoring to better understand the opportunities.	Medium
T6		Investigate, and if feasible, facilitate and promote the establishment of a community car share scheme.	Low
E1	Accelerate the transition to renewable energy and zero carbon buildings and assets	Continue to elevate Council's Environmentally Sustainable Design requirements through the planning scheme and collaborate with developers to explore the feasibility of delivering net zero carbon buildings.	High
E2		Continue to implement energy efficiency improvements across Council buildings.	High
E3		Continue to install solar power and battery storage opportunities (where feasible) across Council buildings and other assets, and improve monitoring of the systems.	High
E4		Explore with the operator of Peninsula Aquatic Recreation Centre and Pines Forest Aquatic Centre the opportunity to purchase 100% renewable energy for their electricity supply.	High
E5		Investigate, support and implement initiatives (such as bulk buys and rebates) to enable the community to make their homes and other buildings more energy efficient, switch to all electric appliances and systems, and install solar power.	High
E6		Transition Council's existing buildings to be all-electric using energy efficient electric appliances and systems (where fit-for-purpose), and abolish existing gas connections. No longer connect gas to new Council buildings.	Medium
E7		Transition all remaining public lights, street lights and sports lights to energy efficient LEDs, and utilise stand-alone solar power (where fit-for-purpose).	Medium
E8		Support innovative solutions for the community to transition to 100% renewable electricity (e.g. via power purchase, microgrid, virtual power plant or similar initiatives).	Medium
N1	Protect and adapt our natural environment and open space	Collaborate with and support the Bunurong Land Council Aboriginal Corporation (BLCAC) to coordinate climate change actions and land management opportunities within the community to incorporate cultural values and knowledge, and enable monitoring of the impacts on cultural values.	High

ID	THEME	ACTION	PRIORITY
N2	Protect and adapt our natural environment and open space	Continue to advocate for State leadership and strategic investment in coastal climate change adaptation for example through partnership with Association of Bayside Municipalities (ABM).	High
N3		Continue to implement the Urban Forest Action Plan (2020) to increase the resilience of Council's tree population and respond to urban 'hot' spots. Include the selection of species to withstand climate change impacts such as drought, increased temperatures, storm events and by making improvements to growing conditions.	High
N4		Monitor the municipality's flora and fauna populations and the quality of their habitat. Develop and implement holistic action plans that investigate and respond to climate change effects on our ecosystems for example pest management, heat stress and resource availability.	High
N5		Aligning with the Coastal and Marine Management Plan (2023), develop coastal adaptation pathways and management actions. Incorporate best available research and data into decision making. Use this data to ensure there are mechanisms to manage coastal hazard exposure including sea level rise, erosion, inundation and groundwater impacts.	High
N6		Update Council's Integrated Water Action Plan (2016-2026) to prioritise investment in integrated water initiatives, including stormwater quality treatment assets so they are effective in treating polluted water before it enters the waterways and bay.	High
N7		Improve the water security of Council's open space, buildings and other assets by increasing access to sustainable water sources (e.g. rainwater, recycled water, stormwater), implementing water sensitive urban design principles and improving water efficiency across Council operations.	Medium
N8		Support local food security through promoting community gardens, home gardening, food sharing and education on sustainable practices and soil health.	Medium
N9		Foster relationships and collaborate with regional organisations to identify and address local environmental issues and reduce threats to biodiversity. In line with the Biodiversity Action Plan (2021) deliver engagement with sporting clubs and community groups to broaden the range of communities involved in biodiversity conservation.	Medium
N10		In line with the Biodiversity Action Plan (2021), encourage the development of an Urban Landcare and/or Youth Landcare Group. Collaborate with existing groups to foster sustainable land practices, protection and enhancement of our natural environment as well as to partner in seeking external funding opportunities.	Medium
N11		Develop a priority list of areas for water sensitive urban design delivery where increased vegetation could ameliorate nuisance flooding.	Medium
N12		Explore carbon sequestration opportunities within the City's blue-green infrastructure and assets. Continue to work with other agencies across the region to identify the potential for accredited carbon offset projects.	Medium
N13		Investigate the feasibility of increasing the capacity of Council's Indigenous Nursery and its development as a hub for biodiversity conservation, supporting residents and businesses to plant native trees and plants to absorb carbon and provide shade.	Low

ID	THEME	ACTION	PRIORITY
C1	Build the community's capacity for climate action and resilience to the impacts of climate change	Continue to collaborate with the South East Councils Climate Change Alliance (SECCCA) and other relevant organisations to partner and support Council and community emissions reduction and adaptation projects and initiatives.	High
C2		In collaboration with the Bunurong Land Council Aboriginal Corporation, undertake an Aboriginal Cultural Values assessment of significant sites to identify and record Aboriginal knowledge and practices, cultural landscapes, places and Country and how they are impacted by climate change. Support Frankston City's Aboriginal people to access and care for Country and culture, and identify adaptation solutions to protect them.	Medium
C3		Research, and implement where practicable, a dedicated climate action funding program to enable and support local collective action on climate change.	Medium
C4		Continue to offer and promote Environmental Upgrade Finance (EUF) for local businesses and investigate the merit of introducing EUF for residents.	Medium
C5		Investigate the feasibility of introducing rebates and other incentives for the community to install rainwater tanks and water efficiency measures in their homes and buildings.	Medium
C6		Support and facilitate community programs focused on building emergency preparedness and resilience to the impacts of climate change, particularly with residents most at risk.	Medium
C7		Support community programs to connect people, increase their knowledge of the climate emergency and provide skills for effective advocacy and action.	Medium
C8		Explore partnerships with service providers to address vulnerabilities of communities most at risk of being adversely affected by climate change.	Medium
C9		Investigate the feasibility of an educational display centre in Frankston to demonstrate practical examples of what the community can do in their own homes to lead a zero carbon lifestyle and live more sustainably, and act as a community meeting place for environmental volunteers.	Low
W1	Advance the transition towards zero waste and a circular city	Continue to promote waste avoidance, diversion from landfill, and expand recycling and resource recovery opportunities in line with Council's Waste Circularity Plan (2023). Explore opportunities in Advanced Waste Processing solutions to reduce waste to landfill.	High
W2		Increase uptake of household food organics and garden organics (FOGO) kerbside collection and investigate the feasibility of a food waste collection service for businesses. Implement a system to divert food waste from Council operations. Support home composting through education programs and assess the feasibility of a rebate scheme.	Medium
W3		Develop a monitoring or auditing process for waste in Council buildings to inform Council's waste reduction efforts, reduce emissions and improve Council's emissions reporting.	Low
W4		Provide community education and support of reuse, repair and share options – such as repair cafes, tool libraries, Men's Sheds, Charity Shops, Garage Sale Trail or second-hand markets.	Low

Appendix A: Science-based targets and carbon neutrality

Council has redirected its climate change-related target from carbon neutrality to setting a science-based emissions reduction target aligned with the Paris Agreement.

In 2008, Council set a target of carbon neutrality by 2025. The achievement of carbon neutrality involves reducing emissions, and purchasing 'carbon offsets' to neutralise any remaining emissions. This process occurs on an annual basis.

In 2022, Council decided to move away from carbon offsetting in order to focus its investment on achieving direct emissions reductions in line with the Paris Agreement.

The Paris Agreement includes a goal to limit global warming to well below 2°C above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

This approach means that Council's effort and expenditure will be focused on programs that will result in real and permanent emission reductions in Frankston City, rather than in the annual purchase of carbon offsets to neutralise Council's emissions.

Following Council's investment and implementation of energy efficiency upgrades and solar PV installations, Council will review the costs and benefits of achieving carbon neutral certification in 2030 (Action L13).

Previous Target (2008)

Reduce Frankston City Council's operational emissions to zero net emissions (carbon neutrality) by 2025.

Carbon neutrality means that the net emissions associated with Council's operations are equal to zero, through a combination of emission reductions and purchasing of carbon offsets for unavoidable (remaining or residual) emissions.

New Target (2022)

Reduce Council's operational emissions by 42% by 2030, from a baseline year of 2020/21.

This target is aligned with the Paris Agreement, and in line with what is required to limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

Rather than purchasing offsets, Council will focus its investment on reducing emissions and adapting to climate change.

Appendix B: Vulnerability assessment

The vulnerability 'heat map' for Frankston City is presented in Figure 12, showing the 20 most vulnerable sub-systems⁴⁶. The colours in the heat map below relate directly to the scores assigned for the various assessment factors, with green indicating low vulnerability and red indicating high vulnerability.

SUB-SYSTEM	ACUTE IMPACTS				CHRONIC IMPACTS			TOTAL
	HEATWAVE	FLOODS	BUSHFIRES	STORMS	TEMP/HUMIDITY	SEA LEVEL RISE	LOWER RAINFALL /INCREASED DROUGHTS	
Coastal and marine environment	22	75	3	75	33	75	11	283
Flora	67	30	30	30	30	30	67	281
Fauna	67	30	30	30	30	30	67	281
People living in inadequate housing (hard to heat or cool)	50	50	33	50	50	33	11	278
Open spaces	22	44	44	67	7	4	67	256
Residents and businesses in coastal and low-lying areas	22	75	11	33	22	75	11	250
Residents and businesses located in lands subject to inundation and/or localised flooding	22	75	33	33	22	50	11	247
Sporting venues and reserves	44	44	15	30	7	33	67	241
Council buildings (owned, operated, tenanted)	44	44	7	67	15	15	44	237
Street trees	15	44	7	67	20	10	67	230
Urban heat island hotspots	50	22	11	15	50	22	50	220
Ambulances and hospitals	33	50	50	50	11	7	15	217
Older/aged residents	50	22	22	33	50	22	7	207
CFA/FRV	11	50	50	50	11	2	33	207
Written or electronic communication	44	15	15	67	15	15	22	193
Wetlands	15	22	50	22	15	33	33	191
Drainage and stormwater discharge/disposal	22	33	3	75	11	33	11	189
Low income and unemployed persons	33	33	22	33	33	22	7	185
Energy	50	22	22	50	15	15	11	185
State Emergency Services	11	50	50	50	4	4	15	183

Figure 12. Vulnerability heat map (red = high vulnerability, green = low vulnerability)

⁴⁶ The sub-systems shown here belong to five systems: Social/population (e.g., older people), Economic (e.g., business & infrastructure), Environment (e.g., biodiversity and ecosystems), Emergency management (e.g., response plans), Council operations (e.g., communications)

Appendix C:

Community engagement

Table 11 shows the full list of engagement activities carried out to inform the development of the Strategy between March 2022 and January 2023.

Table 11. Community engagement overview

STAKEHOLDER/ COMMUNITY GROUP	ACTIVITY	DATE
Frankston Environmental Friends Network	Presentation	11 May 2022
Community Groups	Action planning workshop	19 July 2022
Frankston City residents	Pop-up at Jubilee Park	16 July 2022
Frankston City residents	Pop-up at National Tree Planting Day event at Jubilee Park	31 July 2022
Frankston City residents (online)	Online survey and ideas board	16 July – 15 August 2022
	Facebook post informing our community to come along to the Jubilee Park event	14 July 2022
	An online workshop with community group representatives	19 July 2022
	A media release “Raise your voice on climate change”	20 July 2022
	A Facebook and Twitter posts asking our community to Help shape our new Climate Change Strategy and take the online survey	20 July 2022
	A sponsored Facebook post asking people to participate in our community survey for a chance to win one of three vouchers for a local organic produce store	11 August 2022
Emergency Management Services	Presentation	31 August 2022
Youth	Workshops on Frankston City’s coastline and climate change	6 September 2022
Community Garden	Informal launch of public exhibition of the Draft Strategy at community workshop on “Healthy Soil, Healthy Planet. The Role of Garden Soil in Climate Action” at Joy of the Earth Community Garden	23 November 2022
Frankston City residents (online)	Engage Frankston public exhibition of Draft Strategy	22 November 2022 – 8 January 2023
Frankston City residents (pop-ups)	Pop-up at Seaford Library	29 November 2022
	Pop-up at Langwarrin Service Centre	29 November 2022
	Pop-up at Carrum Downs Library	30 November 2022
	Pop-up at Frankston Library	30 November 2022
Council meeting	Adoption of final Strategy at ordinary Council Meeting	15 March 2023



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TRANSLATION AND ACCESSIBILITY

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