

An aerial photograph of Melbourne, Australia, showing a mix of urban, industrial, and recreational areas. The city skyline is visible in the background, with numerous skyscrapers. In the foreground, there are large industrial buildings, a stadium, and a racetrack. The image is overlaid with three blue horizontal bars containing white text.

FISHERMANS BEND

SUSTAINABILITY

STRATEGY

VICTORIA
State
Government



Disclaimer

The content of this document requires refinement and further assessment of options and feasibility, and will take into account community and stakeholder comment received in the draft Fishermans Bend Framework consultation process.

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FISHERMANS BEND SUSTAINABILITY STRATEGY

Introduction

Sustainability is the overarching framework for the development of the Fishermans Bend Vision and Framework.

The Fishermans Bend Vision September 2016, states that the overarching vision for Fishermans Bend is to create *“A thriving place that is a leading example for environmental sustainability, liveability, connectivity, diversity and innovation.”* The Vision identified eight sustainability goals:

1. A connected and liveable community
2. A prosperous community
3. An inclusive and healthy community
4. A climate adept community
5. A water sensitive community
6. A biodiverse community
7. A low carbon community
8. A low waste community.

These sustainability goals are embedded in the Fishermans Bend Framework and form the basis for strategy development and implementation. Sustainability goals will be integral to the development of the four precinct plans for the mixed use neighbourhoods in Montague, Lorimer, Sandridge and Wirraway and for the Employment Precinct, focusing on design, engineering and advanced manufacturing.

This Strategy builds on State and local government policies and strategies and provides the background justification for the targets and objectives identified to implement each of the sustainability goals.

Looking forward, this strategy provides the context and framework for the Fishermans Bend Sustainability Plan, and will support the implementation of the identified projects linked to each goal.

Caring for Country

Caring for Country describes the different sustainable land management practices and initiatives that Aboriginal and Torres Strait Islander peoples undertake, and the key role these practices play in continuing culture. Caring for Country encompasses the entirety of country – its past and future, its people, its flora and fauna, its natural landscapes and its urban forms, its history and its culture. It is intrinsic to Aboriginal knowledge and a fundamental expression of Aboriginal culture. We respect and acknowledge Aboriginal culture and will work in partnership with Aboriginal Victorians across landscapes, communities and natural resources.

Green Star – Communities

Fishermans Bend is registered for, and committed to achieving Green Star – Communities certification. Green Star – Communities is Australia’s most comprehensive rating tool for sustainable community and precinct development, providing valuable guidance and assurance to communities, governments and the development sector alike. The principles of Green Star – Communities are embedded in the planning and design of the project, and sustainability commitments and outcomes will be independently certified.

Policy context

The following State and local government policies and strategies inform the development and implementation of the Fishermans Bend Framework, the precinct plans and the Fishermans Bend Sustainability Plan.

State Government policy framework

• Plan Melbourne 2017–2050

The social, economic and environmental benefits of creating a more compact, sustainable city are profound. Plan Melbourne identifies approximately 700 hectares of land available for urban renewal close to central Melbourne. At approximately 480 hectares, Fishermans Bend is the largest inner city urban renewal precinct accommodating 80,000 residents and 80,000 jobs by 2050. Fishermans Bend provides the opportunity to incorporate sustainability considerations into planning and building processes, and to deliver high-density, mixed-use development and integrated transport that will support a range of economic activities and diverse housing choices. Fishermans Bend is identified as a National Employment and Innovation Cluster.

• Climate Change Act 2017

The Act manages climate change risks and maximises the opportunities that arise from decisive action, driving our transition to a climate resilient community and economy with net zero emissions by 2050. Five yearly interim targets will keep Victoria on track to meet this long-term target.

• Victoria’s Climate Change Adaptation Plan 2017–2020

Victoria’s Climate Change Adaptation Plan 2017–2020 lays out government’s plan of action for the next four years.



The Adaptation Plan will build a detailed understanding of Victoria's exposure to climate change risks and impacts, catalyse partnerships for integrated and effective responses to climate change and tackle immediate priorities to reduce climate change impacts.

- **Protecting Victoria's Environment – Biodiversity 2037**

The Biodiversity Plan presents a long-term vision for Victoria's biodiversity, supported by two goals: *Victorians value nature* and *Victoria's natural environment is healthy*. The plan sets statewide targets for both goals.

- **Victorian Emissions Reduction and Renewable Energy Targets**

The Victorian Government has committed to legislating a long-term target for Victoria of net zero greenhouse gas emissions by 2050, along with renewable energy targets of 25 per cent by 2020 and 40 per cent by 2025.

The net zero target means that by 2050, Victoria's greenhouse gas emissions will be reduced as far as possible and any remaining emissions will be balanced through activities like planting trees or capturing more carbon in the ocean and coastal ecosystems. This target helps to provide long term certainty for investment and guide the important transitions ahead for our economy, industries, cities and regions.

- **Water for Victoria**

Water for Victoria sets a new long-term direction for managing our precious water resources as we deal with the impacts of climate change and a growing population. The actions set out in the plan support a healthy environment, a prosperous economy with growing

agricultural production, and thriving and resilient communities now and into the future. The challenge and opportunity is to include all elements of the urban water cycle in the way we plan and manage water so that Fishermans Bend can continue to thrive in all climates.

- **Statewide Waste and Resource Recovery Infrastructure Plan/Metropolitan Waste and Resource Recovery Implementation Plan**

The statewide plan outlines the overarching vision and goals for Victoria over the next 30 years. The statewide plan aims to reduce waste to landfill, increase recycling (especially of organics), improve infrastructure, strengthen education and engagement, and build markets for resource recovery. The metropolitan plan sets out how to meet the recycling and waste needs of metropolitan Melbourne over the next 10 years, and provides a vision and strategy for moving Melbourne towards a future in which landfills are the last option. There are four strategic objectives:

- reduce waste sent to landfill,
- increase organic waste recovered
- deliver community, environmental and economic benefits
- plan for Melbourne's growing population.

- **Homes for Victorians**

This strategy outlines initiatives to support homebuyers, increasing housing supply, increasing and renewing social housing stock, promoting renting affordability and stability and providing housing services for Victorians in need.

- **Local Government Policy Framework**

Both the City of Melbourne and the City of Port Phillip have strong commitments to sustainability, in particular climate change adaptation and mitigation. The following key policies and strategies have informed the development of the sustainability goals, targets and objectives, and will continue to inform further work to develop the Fishermans Bend Sustainability Plan.

City of Melbourne key strategies:

- Zero Net Emissions Strategy
- Climate Change Adaption Strategy
- Total Watermark City as a Catchment Strategy
- Waste and Resource Recovery Plan
- Resilient Melbourne
- Urban Forest
- Draft Urban Ecology and Biodiversity
- Community Infrastructure Development Framework 2014
- Municipal Health & Wellbeing Plan 2013–2017
- Transport Strategy 2012
- Open Space Strategy 2012.

City of Port Phillip key strategies:

- Toward Zero Sustainable Environment Strategy 2007–2020
- Greenhouse Plan
- Waste and Resource Recovery Strategy
- Climate Adaptation Strategy Refresh 2017
- Water Plan – Toward a Water Sensitive City 2010
- Sustainable Transport Strategy 2014
- Open Space Strategy 2009.



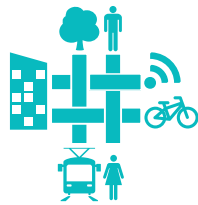
THE EIGHT SUSTAINABILITY GOALS FOR FISHERMANS BEND

The Fishermans Bend Vision established eight sustainability goals that will drive the overall social, environmental and economic planning for Fishermans Bend. These sustainability goals have informed the development of a series of targets, strategies and actions which underpin the development of the Fishermans Bend Framework.

Each goal includes the following:

- > **An overview** which outlines why the goal is important in Fishermans Bend.
- > **Targets for 2050** which articulate what it means to achieve the goal.
- > **Objectives** which articulate what is needed to achieve the goal.
- > **Strategies** outlining how each objective will be achieved through key policy and investment directions.

The Fishermans Bend Framework details how each of the goals will be delivered through short, medium and long term infrastructure projects in each precinct.



1. A CONNECTED AND LIVEABLE COMMUNITY

A connected community enables people to easily connect to where they want to go and to each other. A liveable community means that people can live, work and study in an environment that supports their general wellbeing and makes life enjoyable.

In Fishermans Bend people will be connected through integrated walking, cycling and public transport links that will make choosing sustainable transport options easy, as well as via digital high-speed data networks. Activity centres will be located near public transport, and include community services and public spaces to ensure that people can access their daily needs close to where they live and work. Less than one in five trips will be made by private car.

Overview

Integrating transport and land use planning is key to making Fishermans Bend a well-connected and liveable place. This will be achieved through significant investment in a public transport network and walking and cycling infrastructure to enable a high level of pedestrian permeability. The use of private vehicles should be focused on long distance trips, or movement of heavy and bulky items. Mixed use precincts and activity centres, which create walkable places, with accessible jobs, dwellings, shops,

entertainment and community services are essential to support the resident, visitor and worker population. Providing a range of multi functional public open spaces, including parks and civic places create lively and social neighbourhoods.

Targets for 2050

- Eighty per cent of trips are made via sustainable transport.
- Broad community participation occurs in active transport.
- Ninety per cent of school related trips are made via sustainable transport.
- A walkability score of 90 per cent from homes and workplaces.
- A focus for community interaction is provided within each precinct .
- Fishermans Bend is widely acknowledged as a centre of architectural excellence.
- A successful activity core is established in each precinct where businesses can thrive and everyday needs are met.

Objectives

Key objectives under this goal relate to transport provision, activity centres, density, neighbourhood character, amenity and diversity of housing choices.

- 1.1** Deliver public transport services that connect to the existing Melbourne network and are a ten minute walk from all residences and workplaces.
- 1.2** Make Fishermans Bend a great place to walk for people with a wide range of abilities and needs.
- 1.3** Make Fishermans Bend an exceptional place to cycle.



- 1.4** Create a street network that prioritises walking and cycling while still facilitating vehicle access.
- 1.5** Enable residents and workers to access public spaces and community facilities within an easy walk.
- 1.6** Minimise the number of car parking spaces in Fishermans Bend to support long-term sustainable transport patterns.
- 1.7** Support low-impact methods of delivering last-kilometre-freight and waste removal.
- 1.8** Plan and design new development to respond to existing and future infrastructure and land uses.
- 1.9** Create thriving, lively mixed use neighbourhoods that have a distinct identity and character, which fosters social cohesion.
- 1.10** Provide family-friendly housing options across Fishermans Bend, with the highest provision in Wirraway.
- 1.11** Align population, job growth and residential densities with the provision of infrastructure and amenities.
- 1.12** Deliver a diverse range of housing choices, including apartment towers, mid-rise and low-rise buildings, that suit a wide range of people and can be adapted to changing housing needs over time.
- 1.13** Design buildings to protect internal amenity and deliver a high quality public realm.





2. A PROSPEROUS COMMUNITY

A prosperous community enables people to find suitable employment to meet their needs and to establish and grow their businesses. It supports ongoing investment and innovation across a range of sustainable industry sectors, including creative industries that are central to Victoria's culture, economy and society.

In Fishermans Bend planning will support diverse employment and education opportunities across all precincts. Local and metropolitan jobs will be supported across a range of sectors and complemented by education and training opportunities. Opportunities for commercial and creative industries will be preserved to ensure that a balanced mix of uses is provided, building on the area's existing strengths including proximity to the CBD and Port of Melbourne.

Overview

The Lorimer, Montague, Sandridge and Wirraway precincts will support a diverse range of economic activities ranging from large floor plate campus-style office facilities to small creative industries and innovation hubs and traditional high street retail and hospitality strips. The Employment Precinct provides unique opportunities for 21st century jobs centred on innovation, entrepreneurship and design excellence in manufacturing. Connecting people to activities across the precincts will require public transport and smart technologies. The adaptive reuse of

selected buildings in each precinct will reflect Fishermans Bend's industrial heritage and utilise spaces in transition.

Targets for 2050

- Fishermans Bend is host to 80,000 jobs.
- Fishermans Bend's economic resilience and diversity is improved.
- High capacity wireless or internet is provided across all of Fishermans Bend.
- Port of Melbourne remains Australia's primary container port.
- Several universities have established campuses in Fishermans Bend.
- The Employment Precinct is internationally renowned as a centre of innovation in design and manufacturing.

Objectives

Key objectives focused on realising this goal relate to economic investment, job growth and smart city technologies and protecting the Port of Melbourne activities.

- 2.1** Facilitate job growth across Fishermans Bend to host 80,000 jobs by 2050.
- 2.2** Strengthen Melbourne's economic diversity and resilience.
- 2.3** Establish the Employment Precinct as a unique economic precinct of global significance.
- 2.4** Provide smart city technology to support economic activity in Fishermans Bend.
- 2.5** Protect Port of Melbourne activities to expand and enhance the long-term economic viability of Melbourne and access to global markets.





3. AN INCLUSIVE AND HEALTHY COMMUNITY

An inclusive and healthy community welcomes people from all walks of life and supports them in having a good quality of life.

Fishermans Bend will be a community for people of all ages and backgrounds. It will provide a range of dwelling options for all types of households including family living and affordable housing. Community services, such as schools, health services, community meeting spaces, library services, sporting facilities and high quality public spaces will ensure that people have opportunities to lead healthy lives.

Overview

An inclusive and healthy community is important in increasing community participation and sense of belonging, community resilience and individual health and wellbeing. The provision of community infrastructure in a coordinated and timely manner will be supported through an infrastructure contributions plan. Preserving historical and heritage elements is critical to developing a sense of place and respecting the past. Fishermans Bend will provide for a diverse range of housing, aiming for a minimum six per cent affordable housing across Fishermans Bend. Partnering models and co-investment by both government and the residential development industry will play an important role in delivering on this goal.

Targets for 2050

- Fishermans Bend is a diverse community, including a mix of income, age, education levels and backgrounds.
- People have plenty of opportunity to participate in local organisations and activities.
- People can access public open space within 200 metres of their home.
- One in three households are families with children.
- At least six per cent of all housing in Fishermans Bend is affordable for low to moderate income households.

Objectives

Key objectives focused on realising this goal relate to housing diversity and affordability, open space and community infrastructure provision, and protection of cultural heritage.

- 3.1** Provide community facilities and services to meet the needs of people of all ages, cultures and socio-economic backgrounds, which create a focal point for social connections.
- 3.2** Embed community infrastructure in mixed-use developments in order to maximise access and delivery opportunities.
- 3.3** Involve the community in the evolution of public open spaces and community facilities.
- 3.4** Create an inclusive community that enables people to age in place.
- 3.5** Deliver affordable housing outcomes through well-established partnership models between government and industry.

- 3.6** Reconsider existing public open spaces within Fishermans Bend in the context of a changing urban environment.
- 3.7** Ensure a distribution of diverse, well designed and safe public open spaces.
- 3.8** Recognise the original topography of the area, especially the profile of the Yarra River and Hobsons Bay, as a significant historic landscape feature.
- 3.9** Protect cultural and architectural heritage to strengthen the sense of place and identity.
- 3.10** Recognise and protect Aboriginal cultural heritage.
- 3.11** Optimise the management of contaminated land to maximise user safety.



4. A CLIMATE ADEPT COMMUNITY

A climate ready community is prepared for the physical, social and economic challenges of climate change.

Fishermans Bend will need to be resilient to extreme weather events, including flooding, drought, heatwaves and storm surges associated with sea level rise. A high degree of social cohesion exists creating a supportive environment that enhances community resilience. In the future in Fishermans Bend, the urban heat island effect will be lower than in other areas of Melbourne.

Overview

Cities have a role to play in building resilience and decreasing the vulnerability of people and places to the adverse effects of climate change. Changing weather patterns and Fishermans Bend's close proximity to the Yarra River and Port Phillip Bay, prioritise the need to mitigate the impacts of sea level rise and changing weather patterns.

The importance of preparing for the impacts of climate change is recognised at the international scale through the Paris Agreement. The Paris Agreement identifies that cities have a role in building resilience and decreasing the vulnerability to the adverse effects of climate change.

Our climate has already changed with further changes likely to occur. Australia is predicted to



experience warmer temperatures, with the southern areas of the country likely to have less rainfall. At the same time, intense rainfall events are projected to become more extreme due to a warmer and wetter atmosphere. Sea level rise will also be experienced through the thermal expansion of the oceans and melting ice on land.

In the future Fishermans Bend will experience more frequent extreme weather events such as flooding, drought, heatwaves and storm surges. Because Fishermans Bend is adjacent to both the Yarra River and Port Phillip Bay, it will also need to be resilient to sea level rise (discussed under Goal 5). These weather trends and patterns have



an impact on human health, water supply, property and infrastructure, and natural environments. There is also an economic impact. The Victorian Government acknowledges the importance of addressing risks in the project planning stage, which is much more cost effective than repairing damage, retrofitting or losing buildings and towns in extreme weather events.

The Australian Government's National Climate Resilience and Adaptation Strategy identifies the coast and cities and the built environment as policy areas or sectors that require planning for the impacts of climate change.

Local government has a role in developing and delivering locally-appropriate adaptation responses. For Fishermans Bend it is important that local government partners with the Victorian Government to plan appropriately for the impacts of climate change. The City of Melbourne's *Climate Change Adaptation Strategy Refresh 2017* acknowledges the need to work more closely with Victorian Government agencies so that planning and development in urban renewal areas considers sea level rise, flood management, increased canopy cover, heat refuges, green roofs and walls, and enhanced permeability.

A Climate Readiness Strategy is currently in development for Fishermans Bend. Key to the Climate Readiness Strategy is the Integrated Water Plan, as described in Goal 5 'A water sensitive community', permeable landscapes, as well as approaches to managing sea level rise.

While general temperature rise and the predicted increase in average annual days over 35°C cannot be controlled, reducing the urban heat island effect will be important for minimising health impacts to vulnerable members of the community. Part of the climate readiness strategy involves achieving generous tree canopy coverage and vegetation, cool roofs and buildings and the provision of shade and shelter through built form.

Community resilience is a key component of climate readiness, as well as a response to and recovery from other shocks and stresses. This strategy will build on the work of Resilient Melbourne as well as State and local government.

Targets for 2050

- The urban heat island effect is reduced so that Fishermans Bend will be no hotter than inner Melbourne.
- The community is resilient to the shocks and stresses of climate change.

Objectives

Key objectives focused on realising this goal relate to green infrastructure provision, sustainable utilities infrastructure and working with stakeholders to increase knowledge and awareness of climate risks and management.

- 4.1** Reduce the urban heat island effect in Fishermans Bend.
- 4.2** Embed green infrastructure into the design of public spaces and buildings.
- 4.3** Develop better community understanding of climate risks.



5. A WATER SENSITIVE COMMUNITY

Water is integral to almost every feature of an urban landscape. Our cities and towns are complex, ever evolving places, and the way we interact with other people constantly changes too. In a water sensitive community, we interact with the urban water (hydrological) cycle in ways that:

- provide safe and secure drinking water
- manage and treat wastewater to protect health and the environment
- provide the water security essential for economic prosperity through efficient use of diverse available resources
- enhance and protect the health of waterways and wetlands, the river basins that surround them, and the coast and bays
- mitigate flood risk and damage
- create public spaces that collect, clean, and recycle water.

A water sensitive community manages water resources effectively, restores and enhances waterways and coastal environments and harnesses opportunities to enhance the liveability of urban environments – making them cooler and greener – through innovative water management methods.

Potable water use will be minimised in Fishermans Bend as buildings and public spaces will use recycled

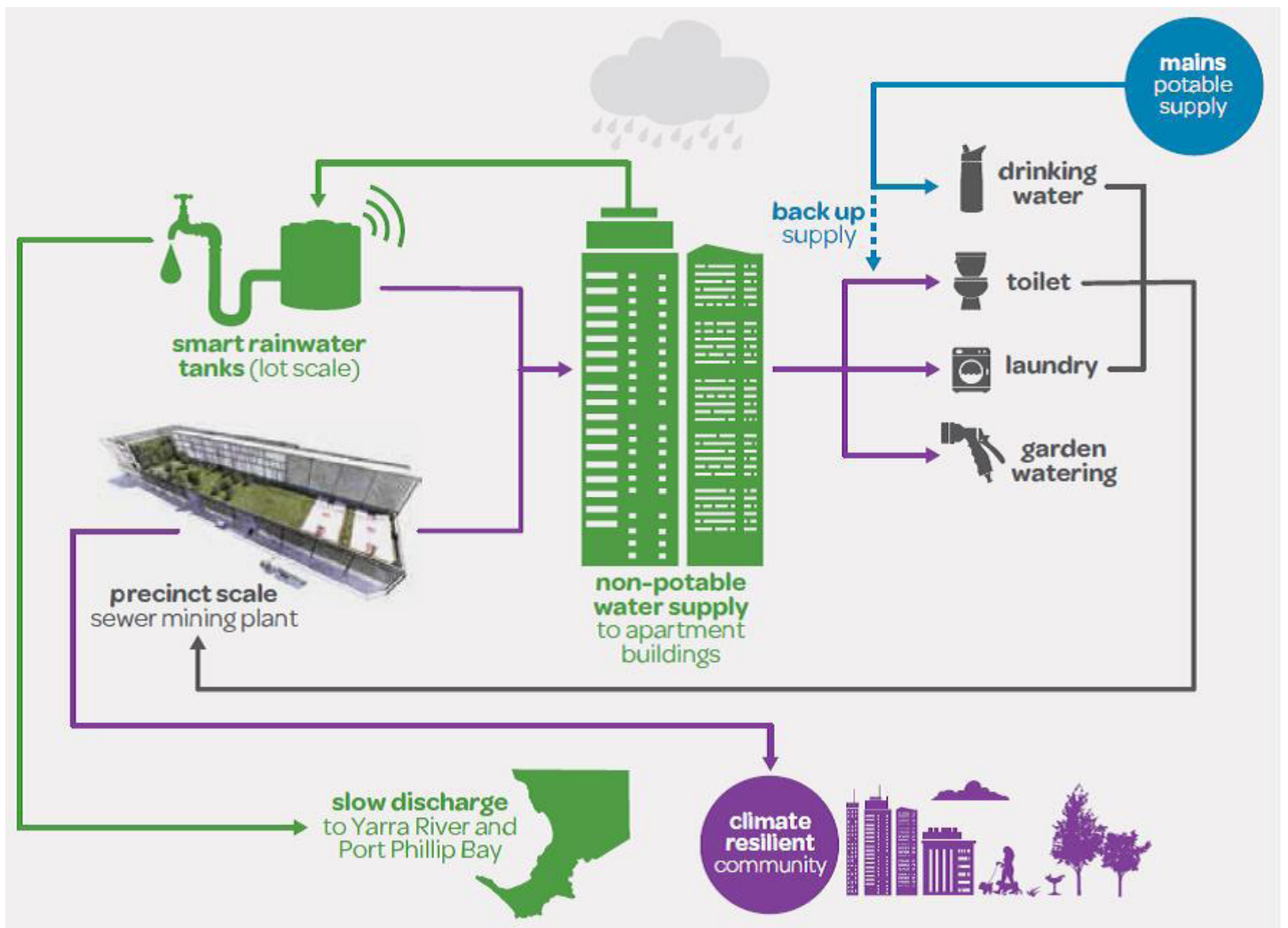


Figure 1: Fishermans Bend Integrated Water Management



water and rainwater for toilet flushing, laundry and irrigation. An integrated water recycling facility will be developed to supply a new third-pipe network. Stormwater detention will be provided within buildings. Landscapes will be designed to incorporate water sensitive urban design principles to improve water quality and manage flooding.

Overview

Consistent with Water for Victoria's action plan Fishermans Bend will use all elements of the water cycle to deliver a more resilient and liveable community. Residents and businesses will have access to high quality potable water and recycled water that is managed carefully to reduce total consumption. Households account for most of Melbourne's water consumption with the average person using 166 litres per day in 2015–16.

Buildings will be designed to capture rainwater to minimise flooding and create a supply of recycled water. Fishermans Bend will provide major infrastructure that conserves potable water resources and sources a drought-proof water supply for landscape irrigation throughout the urban renewal area.

A sewer mining plant will be developed to supply the third-pipe network. Buildings and public spaces will utilise recycled water and rainwater for non-potable uses of laundry, toilet flushing and garden watering. Fishermans Bend's location in the heart of Melbourne is ideally situated to provide a low-cost source of climate independent alternative water, to make the area greener and more liveable.

Fishermans Bend is well positioned to assist in transitioning the city to more sensitive water practices. The Victorian Government is working with local councils and water authorities to achieved a community-wide integrated water solution. An integrated water system will make the most of locally available water, minimising water and sewerage loads, reducing flooding and transforming urban amenity.

Large rainwater tanks will be installed in buildings to capture rainwater to minimise flooding in the area . The system will utilise smart grid technology to maximise the capture of rainwater for reuse in buildings, while maintaining enhanced flood mitigation to the area. The system will also utilise digital meters to monitor and control the network to measure water and control quality.

The urban form will be designed to accommodate sea level rise. This is necessary as it is difficult to find insurance that will cover flooding from the sea and therefore a mechanism needs to put in place to ensure we minimise the impacts on property as a result of sea level rise and flooding.

Targets for 2050

- Nutrient discharges from stormwater and treated effluent to Port Phillip Bay are reduced.
- Net sewage discharge reduced by 50 per cent.
- Potable water demand of less than 100 litres per person per day.
- Reduced impact of storm and flood events, including sea level rise.

Objectives

Key objectives focused on realising this goal relate to green infrastructure provision and planning for the impacts of sea level rise and storm events.

- 5.1** Design the urban form to accommodate sea level rise and storm events.
- 5.2** Establish an integrated water system across Fishermans Bend to provide access to high quality potable and recycled water.



6. A BIODIVERSE COMMUNITY

Biodiverse communities incorporate a variety of plant and animal life that support healthy ecosystems. This assists in minimising the impacts of climate change and enhances connectivity to and enjoyment of the natural environment within the city.

Biodiversity will be supported in Fishermans Bend with public spaces and buildings creating habitat opportunities for indigenous flora and fauna. This will be achieved through appropriate landscape

design in street and parks, as well as through the use of green walls and roofs in buildings. Green links will be established to link Fishermans Bend to surrounding areas that support a biodiverse environment such as Westgate Park and Port Phillip Bay.

Overview

Biodiversity will be enhanced in Fishermans Bend; benefiting local flora and fauna as well as residents and visitors. Improving biodiversity contributes to the health and wellbeing of the community, through providing pleasant and engaging spaces to play and enjoy.

Green spaces and water bodies help reduce impacts of heatwaves and reduce air pollution.

Biodiversity also increases the resilience of the area to shocks such as flooding and climate change. More broadly, green spaces enhance character and liveability, making Fishermans Bend a great place to work, live and visit.

Biodiversity links with many other strategies including Public Open Space, Water, Climate Resilient Strategy, Waste and Recycling, and Indigenous Cultural Heritage. Building design guidelines will require measures to make Fishermans Bend a green area. A Fishermans Bend Biodiversity Strategy will be prepared in 2017.

Green links will be established to connect Fishermans Bend to surrounding areas, making it easier for species to move across the landscape to access shelter, water and food, particularly in times of extreme weather and food shortages. Opportunities to increase biodiversity through green roofs and walls will be investigated.

Public spaces and buildings will create habitat and food resources for local flora and fauna.

Public open space will have a 50 per cent tree canopy coverage and significant mid-storey and ground-level habitat creating complex and rich local ecosystems. A diversity of native and indigenous species will be used in open spaces to increase habitat niches and ecological resilience.

The Public Space Strategy for Fishermans Bend aims to create a public space network that enhances the biodiversity of Fishermans Bend and supports local wildlife. Public space can provide habitat for native fauna and support biodiversity and ecosystem services.





Existing habitat will be protected where possible, and the overall public space network will provide a mosaic of habitats and stepping stones for mobile species.

Increasing tree cover helps create habitats as well as moderate heatwaves and reduce pollution. A range of tree species will be chosen based on tree canopy cover, street character, beauty and colour, increasing tree diversity, adaptability and tolerance of species, longevity, maintenance issues and site characteristics. Trees will include introduced as well as native and indigenous species. The City of Melbourne has developed an Urban Forest Precinct Plan for the Lorimer and Employment Precincts. An Urban Forest Plan for the whole of Fishermans Bend would ensure harmonised and integrated urban forests.

Private land will play a key role in improving habitat for biodiversity. Buildings can use green roofs and walls, as well as creating private open space with a rich array of species.

Open space links can assist in creating habitat corridors between areas of larger established habitat and biodiversity hotspots.

Westgate Park is a key habitat area, and the central area of the park will be protected to enhance biodiversity, as well as increase linkages to other green spaces outside the area. Habitat protection and enhancement will help to protect endangered species. Engaging residents in biodiversity conservation is critical – particularly with Indigenous owners of the land and community groups. Connecting people to nature is critical to building support and recognition of biodiversity benefits.

Residents will be engaged in the evolution of green space through local community groups as well as initiatives like 'Adopt a Tree' or a future ecology project.

Targets for 2050

- More than 90 per cent of trees will be in good health by 2050.
- Greater diversity of plant species and fauna recorded compared to 2017 levels.

Objectives

Key objectives focused on realising this goal relate to the open space network to support biodiversity, increased habitat diversity and planting.

- 6.1** Create an open space network that enhances biodiversity and supports local wildlife.
- 6.2** Establish greater habitat diversity, including over, mid and ground storey vegetation.



7. A LOW CARBON COMMUNITY

A low carbon community minimises the use of fossil fuels and the generation of carbon emissions into the atmosphere.

Greenhouse gas emissions in Fishermans Bend will be minimised through energy efficient design, construction and operation of buildings, through renewable energy generation, energy storage and significant reductions in the use of private cars. Integrated smart management of energy within precincts and large sites will improve energy efficiency outcomes for Fishermans Bend.

Overview

In order to keep global temperature increases within two degrees celsius, Victoria has committed to reduce its greenhouse gas emissions to net zero by 2050, as well as setting renewable energy targets of 25 per cent by 2020 and 40 per cent by 2025.

Fishermans Bend has a key role to play in contributing to this target, and demonstrating how urban renewal precincts can lead the way in Melbourne and across Australia in achieving significantly better performance. Sustainability objectives and strategies are aligned with the directions and obligations set by the Victoria Government's *Climate Change Act 2017* and *Plan Melbourne 2017– 2050*.



Through effective collaboration between government, infrastructure and utility providers, the private sector and the community, Fishermans Bend will deliver world-class sustainable buildings, renewable energy generation and smart energy management infrastructure – thereby creating a climate ready, liveable, low-carbon community. A shift from private car use to walking, cycling and sustainable public transport is a critical piece of the puzzle, and is addressed under Goal 1: A connected and liveable community.

A Zero Net Emissions strategy will be developed for Fishermans Bend, which will set out how we will get there and provide clarity on the objectives and strategies. Some actions will be immediate, such as setting higher standards for energy efficiency in new buildings. While



some actions will be longer term and require action by the Federal Government, such as transitioning to electricity generation from zero emission sources and eliminating dependence on fossil fuels.

Key elements of this strategy will be the use of science-based targets, measures to reduce and eliminate fossil fuel use and peak energy demand reduction strategies. Design and performance standards for buildings will evolve over time and be updated regularly, in line with legislation, benchmarking tools and the market's ability to innovate and deliver.

Greenhouse gas emissions from landfill are an additional component which is addressed under Goal 8: A low waste community.

Target for 2050

- Fishermans Bend will achieve zero net greenhouse gas emissions by 2050.

Objectives

Key objectives focused on realising this goal relate to transport provision and sustainable utilities infrastructure.

- 7.1** Develop Fishermans Bend as a zero net emissions precinct.
- 7.2** Design buildings to best practice green building standards.
- 7.3** Maximise renewable energy generation, storage and distribution.



8. A LOW WASTE COMMUNITY

A low waste community recognises that the planet's resources are finite and that responsible management of waste can assist in minimising the depletion of these resources and maximise opportunities to reuse and recycle materials.

Recycling will be maximised and waste to landfill reduced. Waste management systems will divert organic waste from landfills. Construction and demolition waste recycling opportunities will be maximised through re-use and recovery of building materials. Opportunities for advanced resource recovery (such as energy from waste) will be investigated, as will local, place-based waste solutions. Building design guidelines will support increased rates of recycling and diversion from landfill through best practice design and operation.

Overview

Fishermans Bend is a unique opportunity to reduce waste and improve recycling through a range of new, pioneering initiatives. It is a chance to rethink waste and recycling – to enhance building design, invest in new infrastructure, improve education programs and trial new technology.

Fishermans Bend aims to have one of the highest recycling rates in Victoria. Increasing recycling has a range of benefits – it reduces greenhouse gas emissions, minimises odour and pollution, creates jobs, and improves the beauty of public spaces. Improving the efficiency of waste services will



reduce local noise and improve traffic flow.

Increasing food waste recycling is crucial. Only three per cent of food waste is recycled, and it makes up about 22 per cent of waste to landfill (and 35 per cent of household garbage). Producing food that ends up as waste is an incredible waste of labour, energy and natural resources, and causes a range of environmental issues including greenhouse gas emissions.

Other key materials include construction materials, plastics and paper as well as difficult to recycle and hazardous materials such as electronic waste, polystyrene, mattresses and hard waste.

Initiatives to achieve a low waste community at Fishermans Bend may include:

- sustainable building design and operation (four star Green Star) to improve recycling infrastructure
- food waste separation, collection and storage infrastructure for households and businesses
- new advanced sorting and processing facilities
- use of new technology, including sensors and compactors, within private and public litter bins
- a sustainability hub with recycling, processing, education and community facilities
- innovative education initiatives that reduce waste generation and increase recycling.

Achieving low waste initiatives will require close collaboration between Port Phillip and Melbourne Councils, Metropolitan Waste Resource Recovery Group (MWRRG), the Fishermans Bend Taskforce and South East Water.

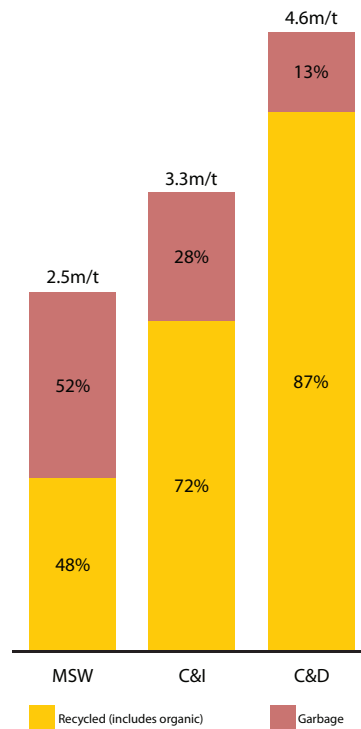


Figure 2. Melbourne waste sectors, diversion rates and tonnes generated (per year)

It will also require engagement with a variety of stakeholders including residents, industry and the waste industry.

Achieving a high recycling rate will require improvement and harmonisation of waste regulations and standards, investment in new facilities and technology, procurement of better waste services and planning for facility space.

A draft Waste and Resource Recovery Strategy has been developed for Fishermans Bend. This strategy will be updated by a range of studies currently underway including:

- feasibility studies for collection and storage systems for multi-unit developments.
- projections for commercial and residential waste

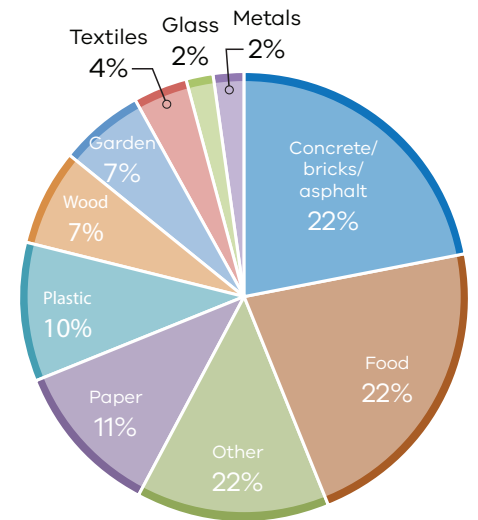


Figure 3. Waste to landfill in Victoria

- anaerobic digestion and Advanced Resource Recovery Technology (ARRT) feasibility analysis
- the implementation of the transport strategy to enable a reduction in truck movements; improving amenity and traffic levels and flow.

Key Targets for 2050

- Seventy per cent of household waste is diverted from landfill.
- Fifty per cent of all food waste is diverted from landfill.
- Improved waste and recycling knowledge in the local community.

Objectives

Objectives focus on building standards, new collection systems, new processing facilities, technological improvements and education programs.

- 8.1** Leading-practice waste and resource recovery management within buildings.
- 8.2** Reduce amenity impacts from waste collection.
- 8.3** Maximum value is extracted from waste.



GREEN STAR – COMMUNITIES

Green Star – Communities has been adopted as a tool to measure and monitor the successful development of Fishermans Bend. It is Australia’s most comprehensive rating tool for sustainable community and precinct development, providing valuable guidance to communities, governments and the development sector alike. The system assesses projects against a holistic set of distinct social, environmental, and economic categories, and an innovation category.

The categories are called:

- **Governance** – to encourage and recognise developers and projects that demonstrate leadership within the sector, by the establishment and maintenance of strong governance practices. The category promotes engagement, transparency, and community and industry capacity building. It also seeks to ensure that community projects are resilient to a changing climate.
- **Liveability** – to encourage and recognise developments that deliver safe, accessible and culturally rich communities. The category encourages the development of healthy and active lifestyles, and rewards communities that have a high level of amenity, activity, and inclusiveness.
- **Economic Prosperity** – to encourage and recognise projects that promote prosperity and productivity. The category encourages affordable living and housing, investment in education and skills development, and the facilitation of community capacity building. The Economic

Prosperity category also promotes greater productivity via emerging opportunities in the digital economy.

- **Environment** – to reduce the impact of urban development on ecosystems. It encourages resource management and efficiency by promoting infrastructure, transport, and buildings, with reduced ecological footprints. The Environment category seeks to reduce the impacts of projects on land, water and the atmosphere.
- **Innovation** – this category also acknowledges efforts which demonstrate that sustainable development principles have been incorporated not only for the community for which the Green Star criteria apply, but in also in a broader sense. This may include collaboration between developers and other parties, and is recognised separately from any outcomes rewarded in other categories.

Each category groups a number of issues related to a certain sustainability impact; these are known as Credits for which points can be achieved. Ratings under the Green Star – Communities tool fall into three bands:

- 4 Star Rating (minimum 45 points) – Australian best practice
- 5 Star Rating (minimum 60 points) – Australian excellence
- 6 Star Rating (minimum 75 points) – world leadership.

Minimum scores are required as follows in each category, depending on the star rating to be targeted:

- Governance: 3–8 points
- Liveability: 2–7 points
- Economic Prosperity : 2–6 points
- Environment: 3–9 points.

The initial Green Star – Communities rating will be based on plans and strategies included in the Fishermans Bend Framework and associated documents. Green Star – Communities also requires projects to recertify their rating every five years, maintaining a valid rating throughout their lifetime until the plan for development is fully built out. Therefore, the stakeholders will be able to track how the implementation of Green Star – Communities at Fishermans Bend is progressing over time, and the relevant delivery bodies will be kept on track to ensure that the goals and targets articulated in the Framework are implemented as planned.

The principles, categories and credits have informed the development of the Fishermans Bend Framework and background strategies, and will further inform precinct planning. This is supported by a detailed Green Star – Communities Strategy.

Green Star – Communities Strategy Summary

Objective 1. Ensure that planning for Fishermans Bend targets an ambitious Green Star – Communities rating, aligned with leading practice for urban renewal.

Directions:

- a. Develop plans and strategies to achieve the targeted Green Star – Communities rating.
- b. Where practicable, plans and strategies should support innovative processes and outcomes, in accordance with Credit 33 – Innovation.

Objective 2. Embed the processes and outcomes of Green Star – Communities in the planning for Fishermans Bend, across



the categories of Governance, Liveability, Economic Prosperity and Environment.

Directions:

- a. Develop, articulate and promote an agreed set of sustainability goals for the project.
- b. Identify credits to be targeted for the project.
- c. Allocate responsibilities for credit achievement and documentation.
- d. Develop processes for monitoring and reporting required to target credits, where appropriate.
- e. Align the requirements and documentation associated with Green Star – Communities with the overall project program.

FISHERMANS BEND SUSTAINABILITY PLAN

The Fishermans Bend Sustainability Plan is being developed during 2017–18. The Sustainability Plan is the overarching document which brings together relevant background strategies and plans to:

- deliver the sustainability goals and targets in Fishermans Bend
- ensure actions required are translated into design and performance requirements for private development, the public realm and infrastructure
- develop a robust monitoring and evaluation framework so we can track progress towards the goals and targets
- capture the potential presented by the wide range of industry initiatives, academic research and catalyst opportunities.

As part of the preparation of the plan, detailed strategies for Zero Net Emissions, climate readiness, waste, and biodiversity are being developed in line with Federal and State Government commitments and policies, and in collaboration with local government partners.

The development of the plan will be informed through stakeholder and community engagement for the draft Fishermans Bend Framework. In turn, as the plan and the detailed strategies it is based on develops, it will help to inform the finalisation of the Fishermans Bend Framework.

The Fishermans Bend Sustainability Plan will inform and guide the preparation of the five precinct plans.

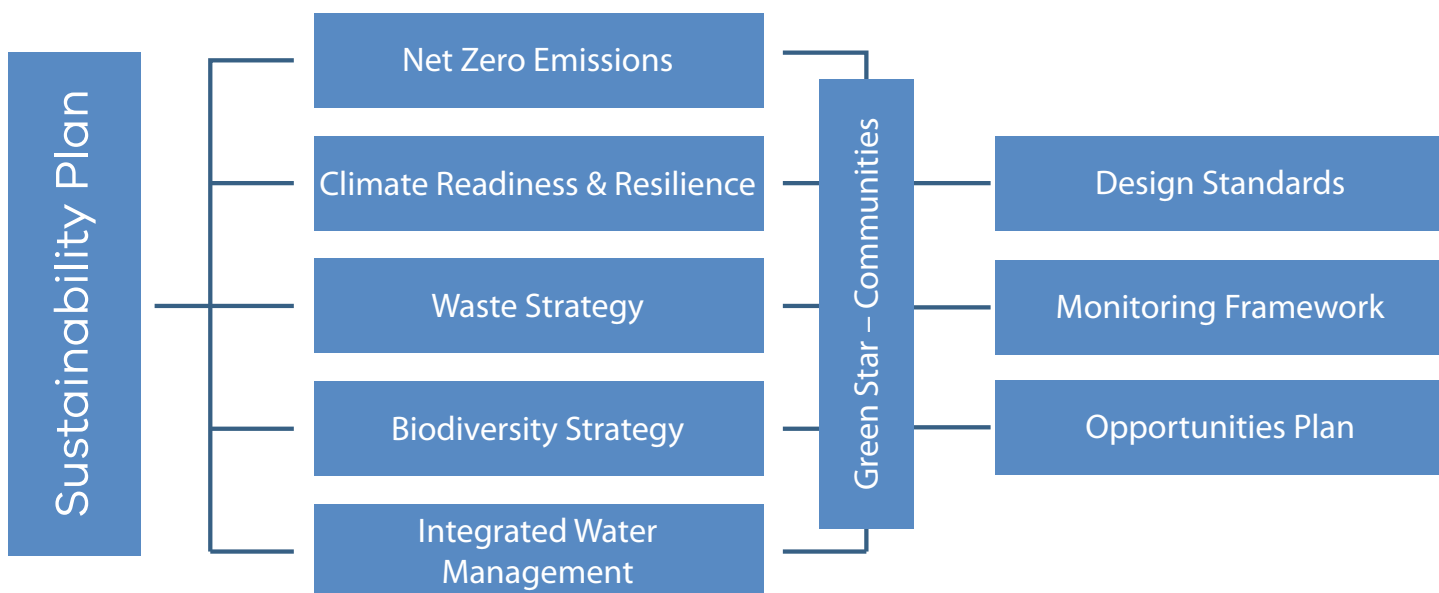


Figure 4: Fishermans Bend Sustainability Plan

www.fishermansbend.vic.gov.au

