# Towards Zero Emissions Plan

## 2019–2023

*Lifestyle Capital of Victoria*




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# Executive Summary

Our climate is changing and the effects are being felt around the world. It will take a concerted and coordinated effort from nations, cities, communities and individuals to address the global threat of climate change facing humanity.

Local government and their communities are at the forefront in reducing their impact on climate change by decreasing their greenhouse gas emissions and demonstrating leadership in this area. Reducing impacts on climate change by driving emission reductions and increasing the use of cleaner energy will not only provide financial savings, but deliver co-benefits including improvements to air quality and public health, creating jobs and protecting the natural environment.

Frankston City Council is committed to reducing energy usage, greenhouse gas emissions and transitioning to more sustainable energy sources. Council has set the ambitious target of achieving zero net emissions by 2025 to drive action across the organisation.

In 1997, Council was one of the first Australian local governments to join the International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Protection program. Two years later Council adopted its first Greenhouse Strategy, which was later replaced with its Carbon Neutral Action Plan in 2012.

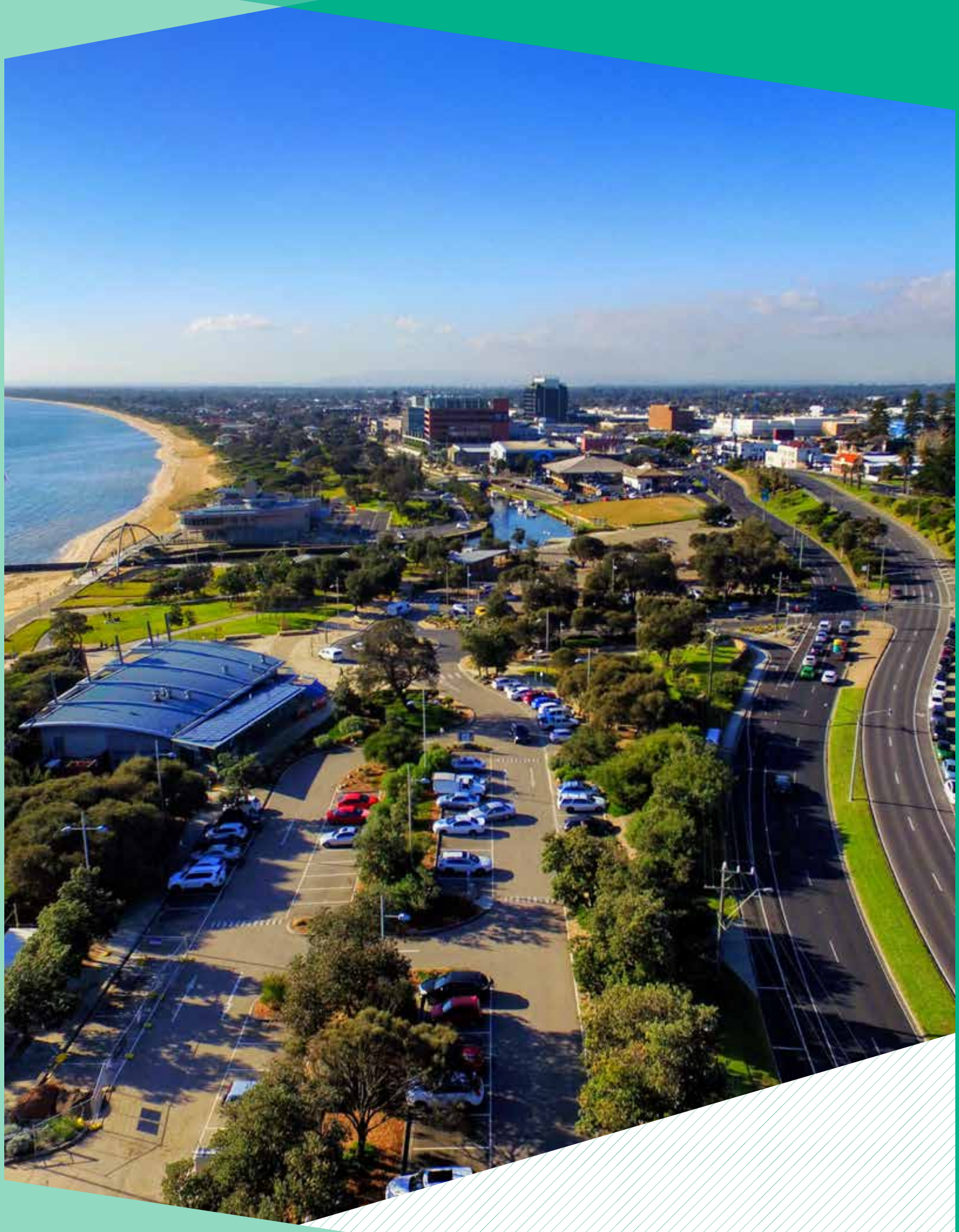
Since 2000 Council has reduced its greenhouse gas emissions by 30% through a robust program of measuring, monitoring and reducing its emissions. Significant activities undertaken by Council to reduce emissions included a bulk changeover of street lights to more energy efficient lamps, energy efficiency auditing and improvements to Council's facilities, as well as increasing the use of renewable energy through solar power installations.

This four year Towards Zero Emissions Plan sets out Council's priorities over 2019 to 2023 to decrease greenhouse gas emissions and lay the foundation for Council to become carbon neutral (zero net emissions) by 2025. The Plan builds on Council's past success and learnings and includes actions to reduce emissions associated with Council's assets, operations and services, as well as actions to support the local community to transition to a low emissions future.

Council works closely with its local communities and other stakeholders to progress emission reductions through education, partnerships and projects. Throughout the duration of the Plan, Council will continue to show leadership, collaborate with its partners and encourage others to help achieve a low emissions future.

Priorities in the four year plan include a continued focus on energy efficiency improvements to Council's buildings and assets, shifting to cleaner energy sources, finalising a business case to replace existing street lights to energy efficient LEDs, as well as working in collaboration with major contractors to reduce emissions associated with the services they provide to Council.

By responding to climate change quickly and decisively, Council will reduce its contribution to global warming and its impact on both local and international communities and maximise opportunities where they arise.



# Introduction

Frankston City Council has long recognised the importance of taking a leadership role and action on climate change. Climate change is a global problem, with the impacts currently being felt around the world.

The primary cause of climate change is the release of greenhouse gas emissions primarily from human activities, such as the burning of fossil fuels (coal, oil and natural gas), agriculture and land clearing[1].

Council is committed to reducing greenhouse gas emissions, saving energy and transitioning to low carbon fuel sources. Council has set a target for zero net emissions (carbon neutrality) by 2025.

This Towards Zero Emissions Plan (2019–2023) documents Council's energy efficiency and renewable energy priorities in progressing towards its zero net emissions target, as well as actions that aim to deliver multiple benefits beyond financial savings, such as social and environmental values.

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

- reduced energy costs
- resource conservation through energy efficiency and renewable energy, resulting in less dependence on non-renewable energy sources (e.g. coal and natural gas)
- less pollution from cleaner energy sources
- probable property value increases through high efficiency green buildings
- improved comfort for building occupants by enhancing thermal performance
- reduced maintenance costs, for example, through products with a longer life
- supporting the electricity grid through efficiencies and renewable energy generation, reducing peak demand and lowering the risk of power outages

This Plan replaces Council's former Carbon Neutral Action Plan.

Council will report on progress of the Plan through the Council Plan and annual reporting processes.

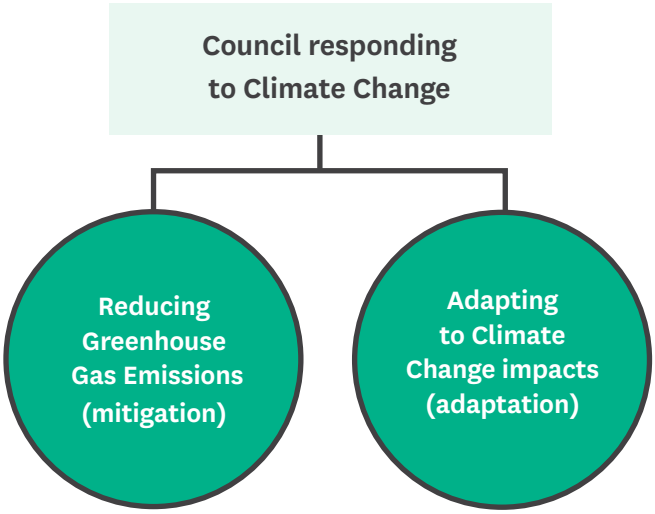
## Purpose

The purpose of the Towards Zero Emissions Plan (2019–2023) is to provide a forward plan with prioritised actions for Council to decrease its greenhouse gas emissions and set the foundation to become carbon neutral by 2025.

The Plan includes actions to reduce greenhouse gas emissions associated with Council's assets, operations and services, as well as actions to support the local community transition to a low emissions future.

## Council's Approach

**Council is addressing climate change in two ways:**




The Towards Zero Emissions Plan is Council's response to greenhouse gas mitigation, whereas Council's Climate Change Impacts and Adaptation Plan addresses adaptation.

[1]Australian Government, Department of Environment and Energy, 2018. Source: environment.gov.au

## Scope

The Towards Zero Emissions Plan outlines Council's key actions and direction for reducing the organisation's greenhouse gas emissions, i.e. those that Council can directly influence, control and typically measure and report on.

Actions that Council can undertake to reasonably influence or support emission reductions in the community are included, for example, though community education and engagement, city planning, contract management, etc.

## Policies, strategies and plans that support this plan

The following Council policies, strategies and plans relate to this Plan:

- Asset Management Strategy 2013–2017
- Building Asset Management Plan 2016
- Climate Change Impacts and Adaptation Plan 2011
- Community Plan 2017–2021
- Environmentally Sustainable Design (ESD) Standards for Council Buildings Policy 2015
- Environmental Sustainability Policy 2010
- Frankston City Council Plan 2017–2021
- Frankston Integrated Transport Strategy 2013
- Greening Our Future — Environmental Strategy 2014–2024
- Integrated Water Action Plan 2016–2026
- Municipal Health and Wellbeing Plan 2017–2021
- Waste Minimisation and Management Plan 2015–2020

# Introduction

## Previous Achievements

**Timeline of Council's journey to-date**

### 2019

Adoption of Council's Towards Zero Emissions Plan (January 2019)

### 2017

- Commitment to Victorian Government's TAKE2 climate change pledge
- Largest solar install on Council's Frankston Arts Centre (99.8 kilowatt)

### 2016

Large solar installation on Council's Operations Centre (96.5 kilowatt)

### 2015

- Frankston City awarded Australia's Sustainable City of the Year
- ESD Standards for Council Buildings Policy adopted
- Greening Our Future — Environmental Strategy adopted

### 2013

Beginning of Greening Our Future environmental events series

### 2012

- Carbon Neutral Action Plan adopted
- Electric vehicle trial with the Victorian Government

### 2011

Climate Change Impacts Adaptation Plan adopted

### 2010

$2.4 million bulk T5 street light changeover completed

- Commitment to Carbon Neutrality by 2025
- Frankston City awarded Australia's Sustainable City of the Year

### 1999

Greenhouse Strategy adopted

### 1997

One of the first local councils to join the International Council for Local Environmental Initiatives (ICLEI) — Cities for Climate Protection program

## Decision-making Principles

Council prioritises its energy and emission reduction initiatives through an Energy Reduction Hierarchy ***(see Figure 1)*** and five guiding principles. Both the hierarchy and the principles are used by Council when deciding on short and long term greenhouse gas emission reduction initiatives.

### Energy Reduction Hierarchy

The Energy Reduction Hierarchy lists four steps to identify ways to manage and reduce energy usage and emissions. The steps, in order of priority (from most to least preferred) are: avoidance of energy use, energy efficiency, switching to cleaner energy alternatives and purchasing offsets for any unavoidable (residual) emissions. See ***Figure 1*** for examples and further information. These steps are particularly useful when making decisions around capital works (infrastructure) initiatives and in the design of new facilities.

### Guiding Principles

In addition to the Energy Reduction Hierarchy, Council uses the following principles to guide and prioritise its energy and greenhouse reduction initiatives. The guiding principles are:

- **Return on Investment (payback)** — actions preferably with a payback period of 10 years or less (i.e. the period of time over which the investment pays for itself through the project savings) and that have a high level of confidence in the resulting emissions reductions.
- **Future-proofing** — actions that will continue to be useful or successful in the future if the situation changes. The aim is to minimise negative effects and maximise positive effects to improve resilience.
- **Co-benefits** — actions that can deliver multiple benefits beyond financial savings, such as social and environmental value (e.g. improved comfort for building occupants).
- **Leadership by example** — opportunity for showing leadership and innovation in addressing climate change to the community.
- **Collaboration** — actions that promote working together with Council, partners and the broader community.

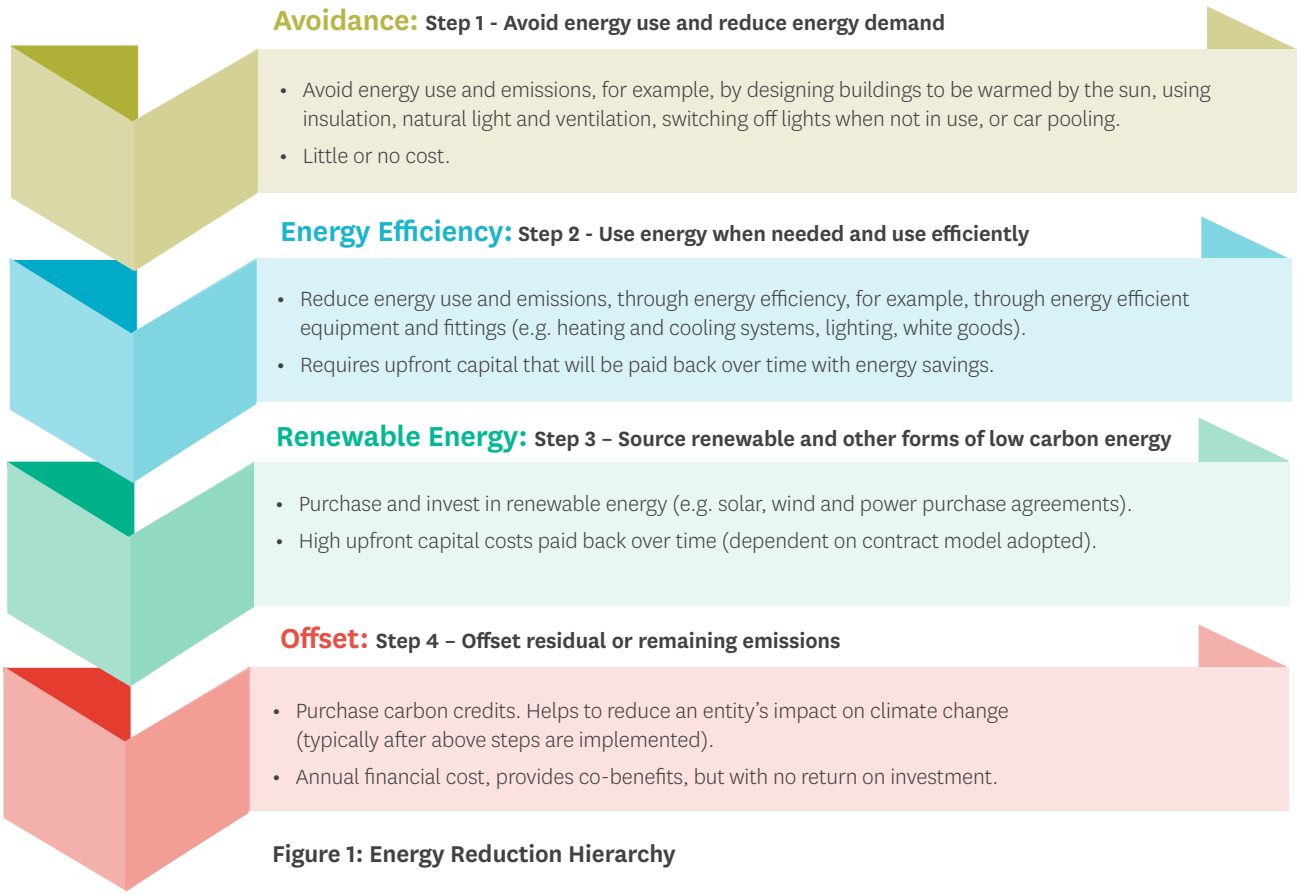



**Figure 1: Energy Reduction Hierarchy**

# 2. Council's Emissions

Council has been monitoring and recording greenhouse gas emissions associated with its activities since 1999. From 2005 onwards, Council has reported annually on its emissions.

## Emissions Boundary

**Council's current greenhouse gas emissions inventory boundary includes:**

- emissions from all operations for which Council can clearly manage, measure and has full operational control, plus
- emissions that are managed by others on behalf of Council that we can seek to influence and readily measure (such as emissions associated with the fuel consumption of Council's major contractors and emissions associated with street lighting).

The inventory boundary currently excludes tenanted facilities where Council is not directly responsible for the operation of the facility, or payment of the energy bills.

In preparation for future emissions reporting associated with achieving carbon neutral certification, Council has established a new baseline year and modified its methodology to move towards aligning with the Australian Government's voluntary National Carbon Offset Standard (NCOS)[2] to assist in measuring its corporate emissions, where practicable and resources allow.

Council's emissions are now categorised into scope 1, 2 and 3 emissions. ***Figure 2*** shows the three scopes defined under the *National Greenhouse and Energy Reporting Act 2007* and what Council now accounts for in its emissions reporting under each scope.

**Moving towards alignment with NCOS has led to the addition of four new emission sources in Council's inventory:**

- major contractor fuels, plus
- emissions from three new facilities that were previously excluded from Council's reporting methodology because Council did not pay the energy bills.

As such, Council has re-assessed and elected 2016–17 as its new baseline year for reporting purposes, due to the availability and reliability of the data for these new emission sources.

This new baseline year is important for measuring ongoing performance by Council in reducing its emissions.

[2] Australian Government, National Carbon Offset Standard (NCOS), 2018. Source: environment.gov.au

Figure 2: Frankston City Council's revised emissions boundary

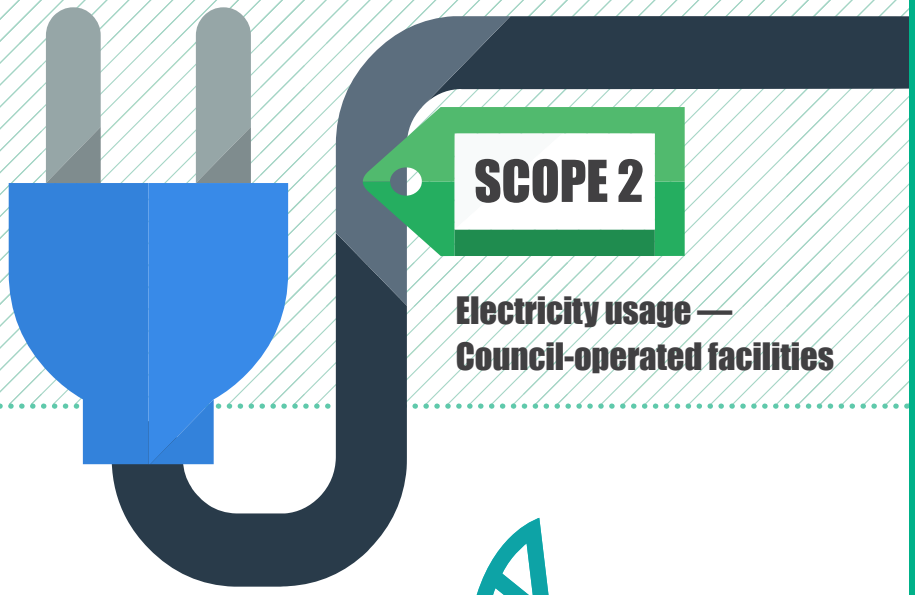
## COUNCIL'S DIRECT EMISSIONS — OPERATIONAL CONTROL

### SCOPE 1

Transport fuels – Council's fleet

Natural gas usage – Council-operated facilities

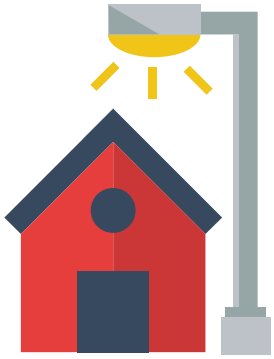
### SCOPE 2



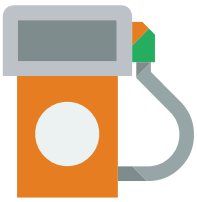
Electricity usage — Council-operated facilities

## COUNCIL'S INDIRECT EMISSIONS — INFLUENCE

### SCOPE 3



Public lighting and street lighting (operated by United Energy)



Fuel usage — Major contractors

Energy extraction, production and transport, plus production losses

## SCOPE 3 (FUTURE CONSIDERATION)

Tenanted facilities (where Council does not pay the energy bills) | Business travel (e.g. air travel, hire car travel, public transport) | Corporate waste | Water supply | Paper use

# 2. Council's Emissions

## Emissions Profile

***Figure 3*** shows the change to Council's greenhouse gas emissions from 2000–01 to 2016–17, including changes to each emissions source over time (i.e. public and street lighting, corporate waste, buildings, plus fleet and transport). Due to the low percentage contribution of waste, this does not appear on ***Figure 3***.

Between 2000–01 and 2015–16 Council successfully reduced its greenhouse gas emissions through a large focus on energy efficiency improvements to its buildings, the replacement of inefficient mercury vapour lamps with T5 technology as part of a bulk changeover of street lights on minor roads between 2009 and 2010, as well as the installation of solar power photovoltaic (PV) systems.

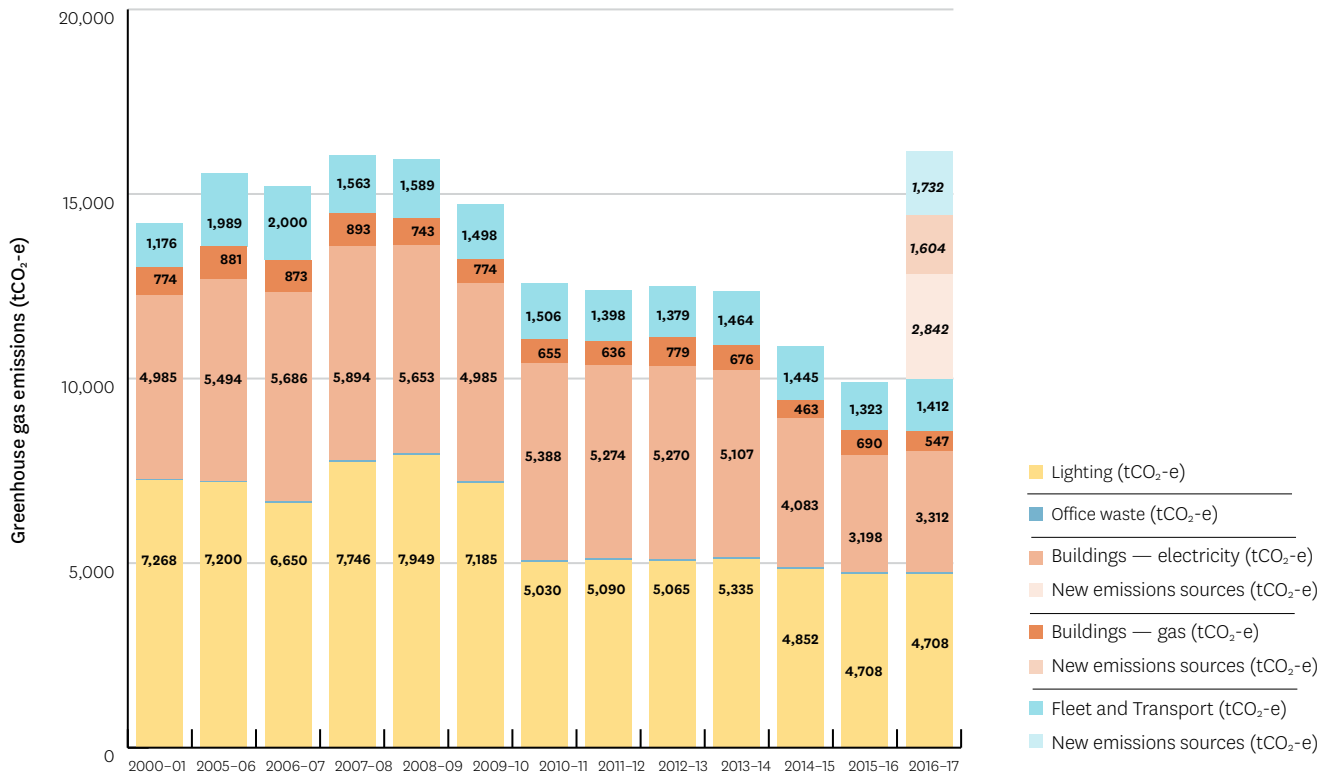
Between 2000–01 and 2015–16, Council reduced its emissions by 30%, from 14,224 tonnes of carbon dioxide equivalent ($tCO_2$-e) to 10,010 $tCO_2$-e.

The large increase in emissions between 2015–16 and 2016–17 is from Council revising its emissions boundary and reporting methodology.

The four additional emission sources included in the 2016–17 baseline year (from the NCOS alignment) are the Peninsula Aquatic Recreation Centre, Pines Forest Aquatic Centre, Frankston Regional Recycling and Recovery Centre and major contractor fuels (for waste collection, asphalting and facility maintenance works).

***Figure 3*** clearly shows the impact of these additional emission sources in 2016–17. In 2016–17, the Peninsula Aquatic Recreation Centre was responsible for 2,735 $tCO_2$-e or 44% of Council's overall electricity generated emissions from its facilities, and 1,488 $tCO_2$-e or 69% of Council's gas generated emissions from its facilities.

**Figure 3: Frankston City Council's gross emissions by sector from 2000–01 to 2016–17**



In 2016–17 Council's total emissions were 16,251 $tCO_2$-e. ***Figure 4*** shows that the largest contributor to Council's greenhouse gas emissions in 2016–17 was building electricity and gas usage (51%), followed by public and street lighting (29%), transport and fleet (19%) and corporate waste (less than 1%).

## Reduction Target

To demonstrate leadership in reducing Council's carbon footprint and greenhouse gas emissions, Council has a commitment to zero net emissions by 2025.

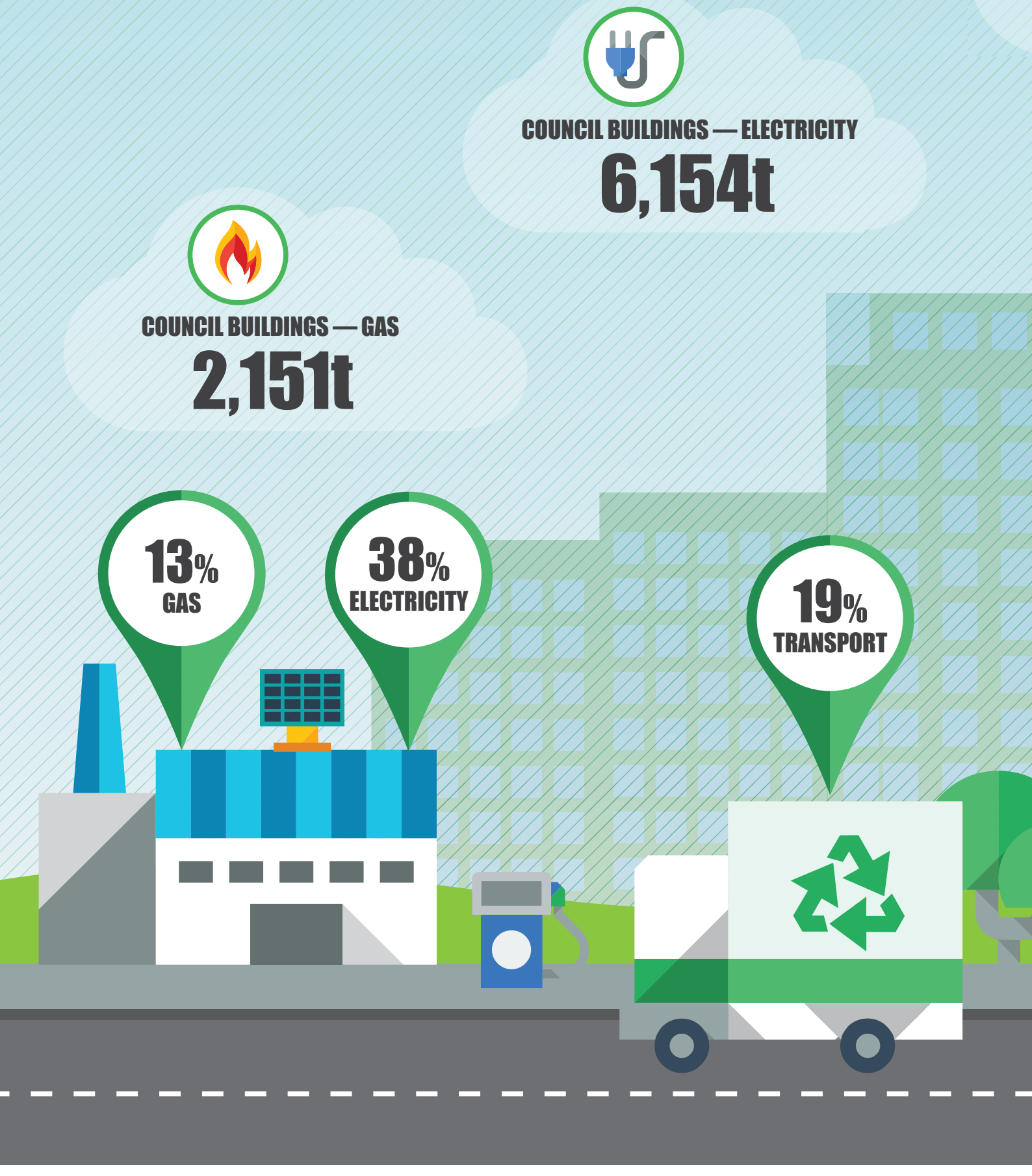
Carbon neutrality means that the net emissions associated with Council's operations are equal to zero, through a combination of emission reductions and offsetting of unavoidable (remaining or residual) emissions.

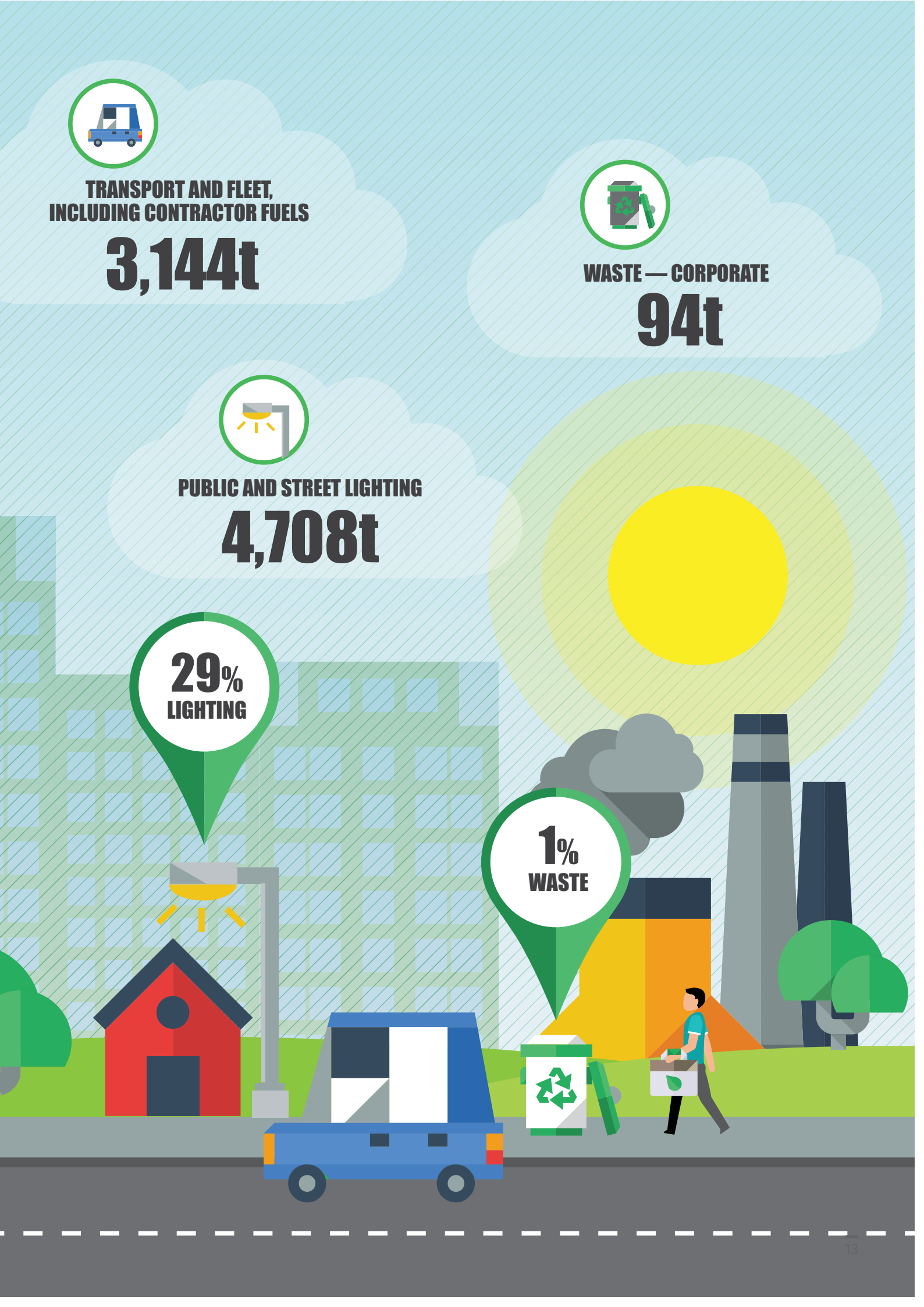
TARGET: To reduce Frankston City Council's organisational greenhouse gas emissions to zero net emissions (carbon neutrality) by 2025.

The actions outlined within this Plan have been established to drive Council's emission reduction efforts towards carbon neutrality, however, carbon offsets will eventually be required to reduce the organisation's remaining emissions and achieve zero net emissions, once all energy efficiency and renewable energy actions have been implemented.

Figure 4:

# Frankston City Council's emissions by sector 2016–17




TRANSPORT AND FLEET, INCLUDING CONTRACTOR FUELS
3,144t
WASTE — CORPORATE
94t
PUBLIC AND STREET LIGHTING
4,708t
29% LIGHTING
1% WASTE

# 3. Key Actions

A detailed Implementation Plan is outlined in Section 5 highlighting Council's energy and greenhouse emission reduction actions over the 2019–2023 period.

Actions cover both 'Measured Emissions', those emissions directly associated with Council's operations and that Council can directly influence, control and typically measure and report on, as well as 'Broader Emissions' which are those emissions produced or managed by others but are able to be influenced or supported by Council.

**Actions are categorised into the following key areas:**

- Facilities
- Public Lighting
- Transport and Fleet
- Waste
- Offsets and Additional Considerations
- Planning and Environment
- Culture and Leadership
- Monitoring and Evaluation

Funding for the new actions are either within Council's existing budget over the duration of the Plan, or will require further analysis and consideration through Council's annual budgeting process. Some actions, for example energy efficiency works, may require additional feasibility assessments. Some actions may also attract external funding, particularly where community benefits or partnerships can be established.

***Table 1*** outlines the energy efficiency and renewable energy actions identified in 2018[3] to reduce Council's emissions, that will require additional investment by Council within the duration of the Plan. These actions are included in Section 5 — Implementation Plan. For each action, the estimated emissions reduction in tonnes of carbon dioxide equivalent ($tCO_2$-e), level of investment required and payback period are included. This list of actions is not exhaustive, as emerging opportunities are likely to be identified.

[3]Emissions Management Plan consultancy report, Point Advisory, 2018.

**Table 1: New energy efficiency and renewable energy actions to reduce Council's emissions**

| Key Actions | Year 1 Estimated Emissions Reduction ($tCO_2$-e) | Estimated Investment ($) | Estimated Payback Period (Years) |
|---|---|---|---|
| **1. Heating, ventilation and air-conditioning (HVAC) upgrades and improvements** | | | |
| **Frankston Arts Centre** — Optimise HVAC controls | 80.70 | $100,000 | 16.0 |
| **Frankston Arts Centre** — Boiler optimisation (controls and demand-side improvements) at the Frankston Arts Centre | 33.26 | $15,000 | 2.5 |
| **Cube 37** — Air-conditioning controls upgrade | 3.67 | $6,000 | 9.7 |
| **Operations Centre** — Disable Packaged Air Conditioner unit and replace with energy efficient split systems | 20.62 | $20,000 | 11.8 |
| **Operations Centre** — Fix compressor air leaks — now completed | 4.53 | $200 | 0.4 |
| **Ebdale Community Hub and Information Centre** — Optimise procedures to ensure HVAC and lighting is turned off when not in use | 3.67 | NIL | 0 |
| **2. Lighting upgrades - Facilities** | | | |
| **Frankston Arts Centre (internal lighting)** — various lamp upgrades to LEDs | 45.69 | $19,412 | 4.9 |
| **Frankston Arts Centre (car park lighting)** — T8 lamp upgrades to LEDs | 72.27 | $15,260 | 2.6 |
| **Meals on Wheels** — T8 lamp upgrades to LEDs | 7.72 | $2,700 | 2.1 |
| **Ebdale Community Hub and Information Centre** — various lamp upgrades to LEDs | 16.39 | $18,800 | 5.7 |
| **Carrum Downs Library** — various lamp upgrades to LEDs or more efficient alternatives | 26.05 | $60,000 | 13.4 |
| **Frankston South Community and Recreation Centre** — various lamp upgrades to LEDs or more efficient alternatives | 9.94 | $13,604 | 7.5 |
| **Lyrebird Community Centre** — various lamp upgrades to LEDs or more efficient alternatives | 22.23 | $30,000 | 7.8 |
| **Operations Centre** — lamp upgrades from T8s (office) and outdoor (metal halides) to LEDs | 38.67 | $18,750 | 5.3 |
| **Frankston Civic Centre (internal lighting)** — T8 lamp upgrades to LEDs | 95.04 | $61,042 | 6.6 |

# 3. Key Actions

**Table 1: New energy efficiency and renewable energy actions to reduce Council's emissions — continued**

| Key Actions | Year 1 Estimated Emissions Reduction ($tCO_2$-e) | Estimated Investment ($) | Estimated Payback Period (Years) |
|---|---|---|---|
| **3. Solar power photovoltaic (PV) installations*** | | | |
| **Peninsula Aquatic Recreation Centre** — 99 kilowatt (kW) solar system (note this does not include Kingspan Panel costs, which could be higher) | 148.56 | $165,500 | 11.9 |
| **Frankston North Community Centre** — 4kW solar system | 5.35 | $6,000 | 7.4 |
| **Karingal PLACE Neighbourhood Centre** — 8kW solar system | 10.71 | $12,000 | 7.1 |
| **Pines Forest Aquatic Centre** — 31kW solar system | 29.80 | $46,500 | 10.8 |
| **4. Street light upgrades#** | | | |
| Upgrade 6,996 T5 (30.5W) street lights to 17W LED lights | 450.28 | $1,467,901 | 10.0 |
| Upgrade 1,423 Mercury Vapour MV80 (93.6W) street lights to 17W LED lights | 534.60 | $547,414 | 4.5 |
| **TOTAL** | **1,659.75** | **$2,625,883** | |

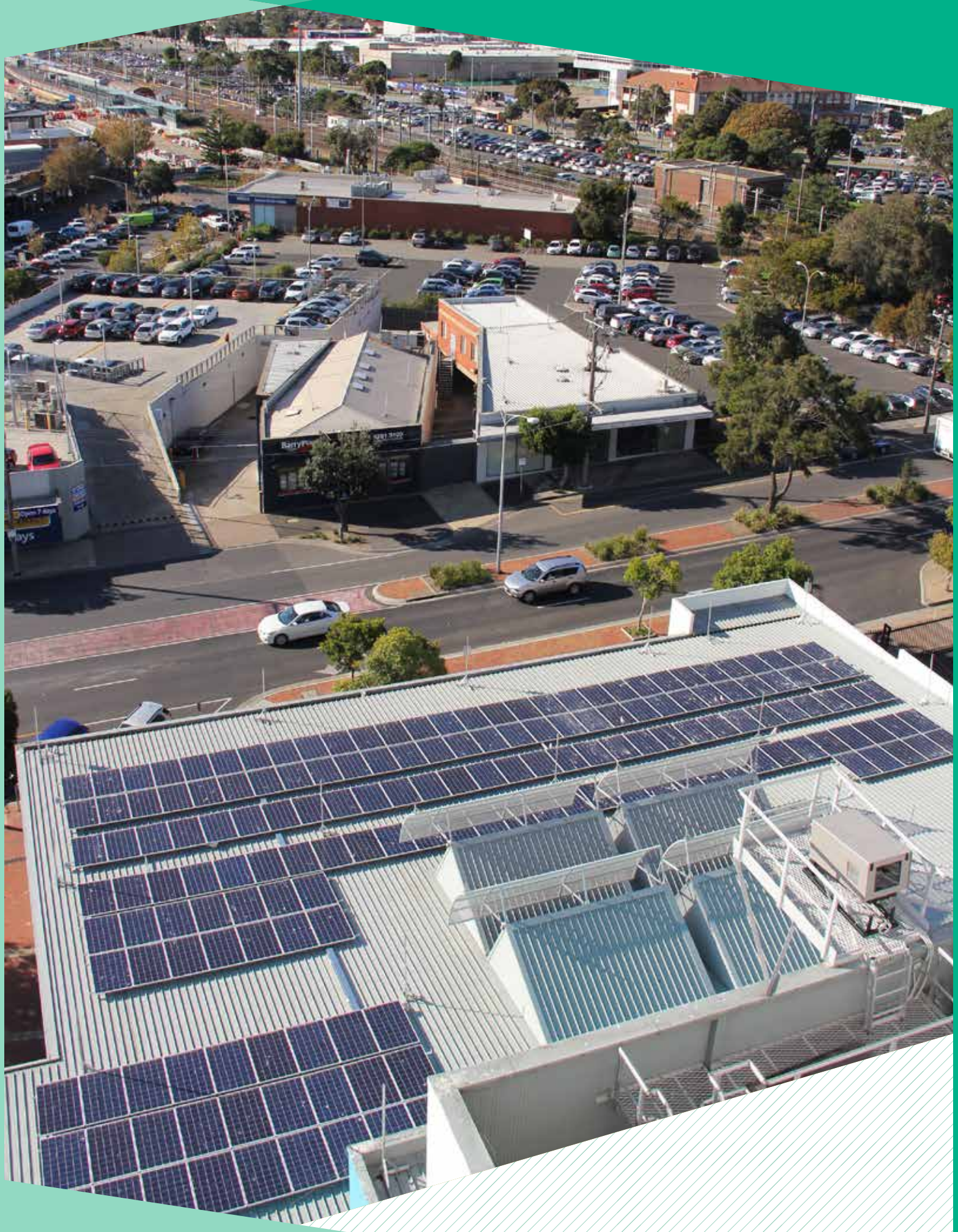
*A solar power system was considered for the Frankston Civic Centre; however, it was not deemed viable at the time due to issues regarding the condition and structural load bearing capacity of the roof. An action to address this is included in Section 5.

#Investment costs for the street light upgrades are subject to further research into lighting options, a public tender process, potential savings that may be available through the VEET scheme[4] as well as electricity distributor requirements; therefore the payback could be higher.

Additional investment in solar power photovoltaic (PV) installations on Council's facilities are planned through Council's 10-year Long Term Infrastructure Plan and existing capital works program ***(see Appendix 1)***. These solar projects are for Council's tenanted facilities and are not listed in ***Table 1*** as they are not within Council's emissions boundary, nor do they reduce Council's electricity costs or emissions. These additional solar projects do however benefit the Frankston City community, helping to reduce their electricity usage and costs, emissions and their impact on climate change.

New actions that will require additional investment by Council throughout the duration of the Plan, but are unable to be accurately quantified in terms of Council's emission reductions, or that have other economic, social and environmental benefits are outlined in ***Table 2***. These actions are also included in Section 5 — Implementation Plan.

[4]Victorian Government, Victorian Energy Efficiency Target scheme, 2018. Source: veet.vic.gov.au



# 3. Key Actions

**Table 2: Additional actions for reducing greenhouse gas emissions**

| No. | Key Actions | Estimated Investment ($) | Benefit/s |
|---|---|---|---|
| **FACILITIES** | | | |
| F1 | Ensure energy efficiency works are carried out under Council's **facilities maintenance contract** and allocate additional funding for reactive works to enable high efficiency outcomes. | New operating ($50k–$100k per annum) | Improves capacity for Council to implement higher efficiency alternatives during reactive works (e.g. replacing low energy rated split systems with higher efficiency models) resulting in reduced emissions and ongoing energy cost savings. |
| F7 | Continue to implement **renewable energy technologies** (e.g. solar power) on Council's existing facilities per current capital works program and outcomes of the solar feasibility and detailed design study (Appendix 1). | New capital ($227k) | Reduced emissions from Council's tenanted facilities, can improve value of the asset, will assist tenants with cost savings on their electricity bills and future-proof them against rising energy costs. Savings can be redirected into providing community services. |
| **TRANSPORT AND FLEET** | | | |
| T8 | Review the **corporate car-pooling system** for Council's passenger fleet, including best practice options in software and technology to maximise utilisation (e.g. by reducing single-person trips). | Funded, but outcomes of review could require new capital ($40k) | Would enable improved utilisation of Council's passenger fleet and car-pooling to reduce single-occupancy trips — reducing fuel usage, costs and emissions. |
| **PLANNING AND ENVIRONMENT** | | | |
| P1 | Work with developers to **improve local development standards** to achieve optimum energy efficiency outcomes. | New operating ($25k–$30k) | Improves efficiency of building stock across Frankston City, resulting in better housing quality and community resilience against rising costs of power and effects of climate change (e.g. heat waves, cold snaps). |

**Table 2: Additional actions for reducing greenhouse gas emissions — continued**

| No. | Key Actions | Estimated Investment ($) | Benefit/s |
|---|---|---|---|
| **PLANNING AND ENVIRONMENT** | | | |
| P2 | Introduce an environmentally sustainable development **(ESD) tool for assessing planning permit applications** (e.g. Built Environment Sustainability Scorecard[5]) to ensure energy avoidance and efficiency opportunities are addressed in new developments, and for consistency in methodology across local councils. | New operating Annual costs: CASBE membership ($6k); BESS tool ($7.5k) | Voluntary education and assessment that will encourage ESD to be considered in the early design stage by planning applicants — the best time to maximise opportunities for good orientation and other initiatives including water efficiency, stormwater management, waste, etc. Goes beyond the minimum energy efficiency requirements of the National Construction Code. |
| P4 | Develop an **ESD policy planning amendment** to the local planning scheme. | New operating ($40k) | Will require new planning applications to consider ESD at the planning stage right through to construction for both residential and non-residential buildings. Similar benefits to action above, but is not optional. Will require applicants to submit a Sustainable Design Assessment or Sustainability Management Plan with the planning permit application to Council (for example, using the BESS tool or equivalent — see Action P2 above). |
| P5 | Resource a dedicated officer to conduct **on-site ESD inspections** for developments once built, to ensure compliance with the ESD policy planning amendment as above (see action P4). | New operating ($82k–$93k per annum) | Ensures developer and owner-builder compliance with Action P4 above. |
| | **TOTAL** | **$337k once-off (higher estimate); plus $207k per annum for ongoing initiatives** | |

[5]Built Environment Sustainability Scorecard, 2018. Source: bess.net.au

# 3. Key Actions

## Facilities

**Council's buildings are the largest greenhouse gas emission contributor within Council's emission boundary, generating 8,305 $tCO_2$-e or 51% of emissions in 2016–17 through their use of electricity and gas.**

Council owns over 300 facilities, including Council offices and an operational depot, libraries, halls, community centres, maternal and child health centres, kindergartens, sporting pavilions, aquatic and recreation centres, etc. Council operates and manages approximately 100 of the 300 buildings it owns.

To reduce emissions from its facilities, Council has identified a number of energy efficiency and renewable energy initiatives that will also reduce Council's energy usage and costs and future-proof Council from rising energy prices. As many of Council's facilities are ageing, a focus on upgrading old inefficient equipment and lighting is required. In addition, for all Council building projects, Council will continue to implement and make improvements to its Environmentally Sustainable Design (ESD)[6] requirements. Other ongoing initiatives include the installation of solar PV technology and the consolidation of multiple facilities into single multipurpose buildings (where feasible) to maximise use and the sharing of facilities.

By further investing in energy efficiency and increasing Council's uptake of low carbon energy sources, Council will be contributing to greater energy security across the region, by reducing energy demand, and in particular, the impact of peak demand on the electricity grid.

As Council has already implemented over 525 kilowatts of solar capacity on its existing facilities, this is not a major focus of the Plan.

Council's Peninsula Aquatic Recreation Centre (PARC) is responsible for 2,735 $tCO_2$-e or 44% of Council's overall electricity generated emissions and 1,488 $tCO_2$-e or 69% of Council's natural gas generated emissions. Whilst PARC has been designed based on ESD principles, solar and operational improvements have been identified as opportunities.

### Key Directions

Ensure energy efficiency works are carried out under Council's **facilities maintenance contract** and allocate additional funding for reactive works to enable high efficiency outcomes.

Ensure Council's **building management systems (BMS) and heating, cooling and air-conditioning systems (HVAC)** are fit-for-purpose and maximise energy efficiency outcomes.

Develop and implement a proactive program for **energy efficiency upgrades** in Council buildings.

Continue to implement and improve Council's **ESD Standards for Council Buildings** policy for all Council building projects to ensure better outcomes in environmentally sustainable design.

Continue to implement **solar power on Council facilities** as part of the existing capital works program and investigate future opportunities for Council buildings and other assets.

**Educate staff and building users** to ensure optimal outcomes in ESD and energy and water efficiency.

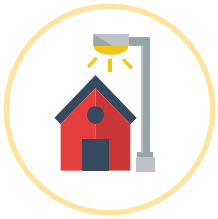
Review opportunities to **embed energy efficiency and greenhouse reporting requirements** into Council's building tenancy arrangements, e.g. Green Lease agreements.

Ensure **governance arrangements** and responsibility for energy and water costs are established and clearly defined in Council's lease/license agreements.

[6]Environmentally Sustainable Design Standards for Council Buildings policy, Frankston City Council. Source: frankston.vic.gov.au


PARC
PENINSULA AQUATIC
RECREATION CENTRE

# 3. Key Actions



## Public Lighting

**The second largest greenhouse gas emission contributor for Council comes from public lighting (including street lighting), generating 4,708 $tCO_2$-e or 29% of emissions in 2016–17 through the use of electricity. Public lighting is a necessity for the safety of the community and the challenge to reduce energy and emissions associated with it requires large upfront costs.**

Council has responsibility for approximately 12,000 street lights along its roads and in its public spaces. Street lights are owned, operated, and maintained by the local electricity distributor, United Energy. Council has responsibility for street lights on local roads and shares responsibility for lights on arterial and some major roads. Council pays the electricity costs, as well as the operational, maintenance and replacement costs for these lights and therefore has a stake in and can influence street light replacements.

Approximately 7,000 street lights are T5 fluorescent lights and over 4,000 are comprised of mercury vapour, metal halide, fluorescent and high pressure sodium lights with varying energy requirements. Council will research and develop a business case for the future upgrade of these lights to energy efficient LEDs.

> All new developments across the Frankston municipality are required to install energy efficient LEDs, so it is only the old and ageing lights that need to replaced.

In 2010, Council was one of the first councils in Australia to complete a bulk changeover of its 6,813 mercury vapour street lights to more energy efficient T5 lights along minor roads, reducing annual emissions by approximately 2,500 $tCO_2$-e each year.

Council invested $2.4 million in the project and achieved a return on investment in just over six years due to decreased electricity and maintenance costs. The T5 lights are now approaching their end of life and Council is working with United Energy to assess the feasibility of replacing the existing T5s with high efficiency LEDs.

### Key Directions

Finalise research and where feasible, undertake a **bulk changeover of existing T5 fluorescent and mercury vapour (MV) street lights** to energy efficient LED technology on local roads.

Investigate the feasibility of **upgrading decorative and high pressure sodium lamps to more energy efficient alternatives** (i.e. LED) on assets where Council pays the electricity bills.

Ensure Council's requirements for **new public lighting requests** achieve a high energy efficiency standard (i.e. LED, solar) and develop standards to achieve this.

Ensure **Council's public lighting projects** (e.g. car parks, reserves) achieve high energy efficiency outcomes using latest technology (i.e. LED, solar) and develop standards to achieve this.

Investigate a changeover to energy efficient LED technology for Council security lighting (buildings and free standing).

Specify high energy efficiency standards using latest technology (i.e. LED) for **outdoor sports ground lighting** at Council's tenanted facilities (e.g. sports and recreation groups), to reduce tenant costs and emissions.

**Advocate to VicRoads** for the upgrade of street lights to LED technology along VicRoads managed roads.

# 3. Key Actions

## Transport and Fleet

**The third largest greenhouse gas emission contributor for Council comes from transport and fleet. In 2016-17, 3,144 $tCO_2$-e or 19% of Council's emissions were from the use of fuels such as diesel, LPG and petrol, used in Council's transport and fleet and in major contracts. Council introduced its first passenger hybrid vehicle in 2004 and trialled an electric vehicle in 2012.**

Council's transport and fleet emissions, which account for 19% of the organisation's total emissions, come from two areas, contractor fuels (11%) and from Council's owned and operated fleet (8%). Within Council's owned and operated fleet, ***Figure 5*** shows the vehicle types contributing to Council's fleet emissions.

Under Council's existing Motor Vehicle Private Use Scheme Policy, Council has set a minimum criterion for the environmental performance of its fleet, with a minimum 3.5 star green vehicle rating for passenger vehicles and 2.5 star rating for AWD wagons, utilities and vans. Over the life of Plan, the policy will need to be updated to reflect changes to the Australian Government's Green Vehicle Guide and new performance measures. Other criteria for determining suitable vehicles include ANCAP safety rating, annual whole of life cost (including fuel consumption), greenhouse gas emissions, air pollution rating and suitability for Council operations.

Through the inclusion of contractor fuels in Council's greenhouse inventory, Council has the opportunity to influence the greater community and businesses in reducing their emissions.

Sustainable transport options will also be a focus of the Plan with the continued implementation of Frankston City's Integrated Transport Strategy and the revised Path Development Plan to increase more sustainable transport options (such as cycling, walking and public transport) across Frankston City.

It is also important for Council to stay up-to-date with electric vehicle technology, infrastructure and opportunities to support electric vehicles where feasible and in the review of Council's Integrated Transport Strategy.

### Key Directions

Investigate and implement as part of the digital transformation project, the resources (technical, software, training, support, space) required for **staff video and teleconferencing** to reduce staff travel for business communication.

Continue to identify and research **fuel efficiency** opportunities to inform the procurement of Council's fleet, and implement where feasible.

Update Council's corporate **motor vehicle code of practice** to reflect changes to the Australian Government's Green Vehicle Guide and ensure best in class efficient vehicles are purchased.

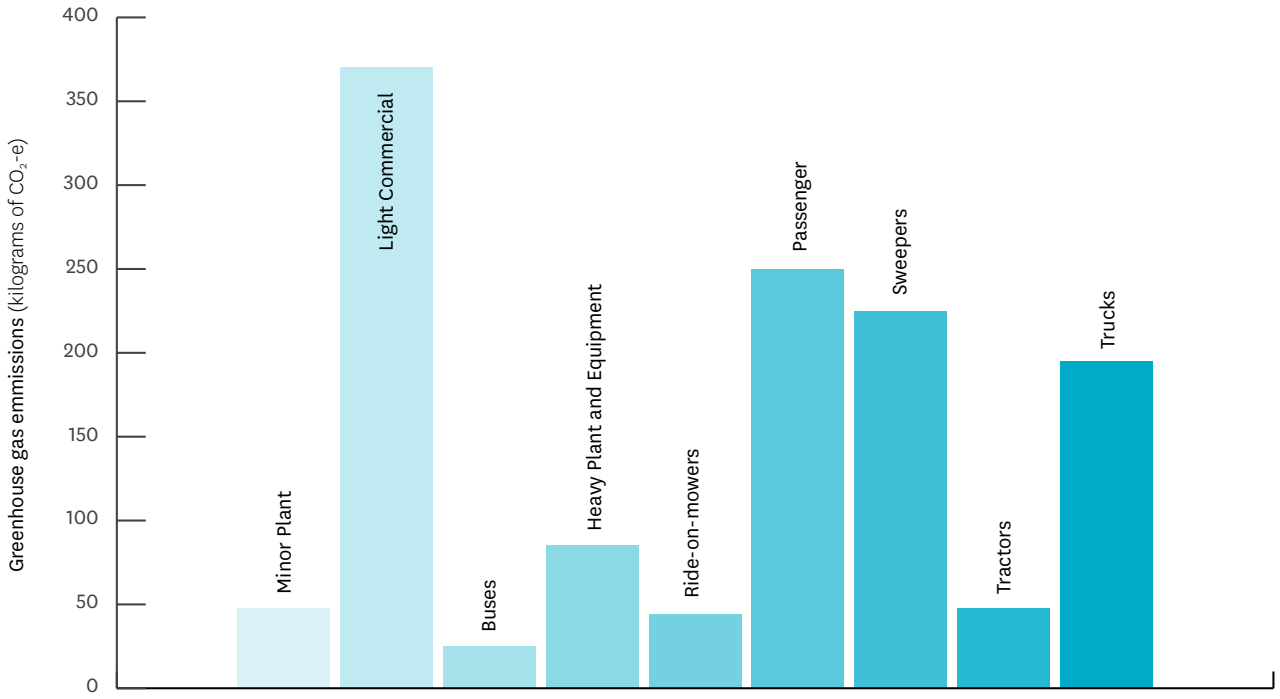
Introduce a driver safety and **eco-driving course** for Council staff, to improve driver behaviour, reduce fuel consumption and expenditure, as well as educate staff through internal communications.

**Review the utilisation of Council's fleet and rationalise where possible** to improve efficiency, reduce fuel costs and emissions.

Include **fuel efficiency standards and greenhouse reporting (fuel usage) requirements** in Council's tender documents for major contracts, i.e. waste services, facilities maintenance, asphalting.

Continue to implement and review **Frankston City's Integrated Transport Strategy** and the revised **Path Development Plan** to increase more sustainable transport options (e.g. cycling, walking and public transport) across Frankston City.

**Figure 5: Council's emissions by fleet type 2016-17**




# 3. Key Actions

## Waste

**The disposal of waste to landfill and the decomposition of organic waste generate greenhouse gas emissions in the form of methane and carbon dioxide.**

Council's waste was calculated in 2011 and 2015 from an internal waste audit of selected Council operated facilities and was less than 1% of Council's total greenhouse gas emissions or 94 $tCO_2$-e. To improve the accuracy of the waste audit data and reporting over time, Council will undertake a new waste audit and make changes to its methodology to ensure waste generation is being reduced and managed wherever possible.

To support the reduction of community waste to landfill, Council will continue to promote waste avoidance, diversion from landfill and recycling and resource recovery through staff and community engagement. Actions outlined in Council's Waste Minimisation and Management Plan will continue to be implemented.

Council is working towards the introduction of a kerbside food waste collection service for Frankston City residents within the duration of the Plan. As food waste makes up approximately 40–50% of an average household garbage bin, this initiative will have significant benefits in terms of reducing waste to landfill and associated greenhouse gas emissions.

The emissions from community waste are outside of Council's emissions boundary, as this is the householder's responsibility, however, the emissions associated with the collection of waste by Council's waste contractors and the operation of the Frankston Regional Recycling and Recovery Centre are included. Council includes emissions from contractor fuel as it is able to reasonably influence the emissions associated with the fuel usage of the trucks.

### Key Directions

Continue to **promote waste avoidance, diversion from landfill and recycling and resource recovery** through community education and engagement programs.

Undertake an internal **waste audit of Council facilities** to identify and implement opportunities to reduce waste to landfill from Council operations and improve reporting in this area.

Design and implement a system to **divert food waste from Council operations** once a food organics garden organics (FOGO) kerbside collection service is established.

Develop and implement a food organics garden organics (FOGO) **kerbside collection service to reduce food waste** and associated landfill emissions from community waste.

Continue to implement and review **Council's Waste Minimisation and Management Plan (2015–2020)**.


FRRRC
FRANKSTON REGIONAL
RECYCLING AND RECOVERY CENTRE
Building, trades
and renovation waste
welcome
64,500 TONNES
35,
6,500
12,500
5,
TONNES
4,500
3,000 TONNES

# 3. Key Actions

## Offsets and Additional Considerations

**Whilst Council is committed to implementing energy efficiency and renewable energy initiatives as outlined within this Plan, there will remain some unavoidable (residual) greenhouse gas emissions that need to be accounted for in order for Council to achieve and maintain its zero net emissions target by 2025 and beyond.**

These remaining emissions will be counteracted through the purchase of approved carbon offsets. The identification of suitable offsets will be determined by following the guidance provided by the National Carbon Offset Standard (NCOS).

One carbon offset unit is equal to one tonne of emissions avoided or removed from the atmosphere. The cost of one carbon offset is dependent on the project that generated it and also the market supply and demand of offsets at the time of purchasing.

Examples of carbon offset projects that reduce or remove emissions from the atmosphere are energy efficiency actions which apply new technologies, processes or practices to achieve the same outcome while using less energy, as well as renewable energy such as wind, solar or hydro generated power and carbon sequestration through reforestation.

The benefit of purchasing offsets through NCOS approved programs means Council will be supporting projects that are implemented, run and managed properly and the credits generated represent real and actual emissions sequestered or avoided. Many of these types of projects also have the added bonuses of other environmental, social and economic benefits, such as improved water quality, increased biodiversity and increased Indigenous employment.

In addition to offsets, Council will investigate and stay abreast of emerging opportunities to invest in large-scale renewable energy projects such as the Melbourne Renewable Energy Project[7]. These types of projects could offer Council and other local organisations the ability to combine their purchasing power to procure renewable energy to reduce their emissions, whilst supporting the construction of new renewable energy projects in Victoria.

### Key Directions

Continue to stay abreast of Council's potential to purchase **renewable energy** from large-scale generation projects to reduce emissions.

[7]City of Melbourne, Melbourne Renewable Energy Project, 2018. Source: melbourne.vic.gov.au

# 3. Key Actions

## Planning and Environment

**Council is able to influence community emissions through its statutory responsibility for administering the Frankston Planning Scheme. Within Victoria-wide planning laws, each municipality has a local planning scheme that describes what types of activities or developments may occur in areas of the municipality.**

Many activities and developments require planning permits and development approvals, usually issued by Council. Conventionally these are assessed on a building-by-building basis within an overarching vision such as the Municipal Strategic Statement[8] and the Local Planning Policy Framework, which are components of the Frankston Planning Scheme. Developments must abide by energy efficient provisions, such as considering the orientation of the block, avoiding excessive windows and shading as outlined in the National Construction Code[9].

The energy efficient provisions in the National Construction Code are relatively weak in comparison to parts of Europe and North America, and discrepancies often arise between the predicted and actual performance once built[10]. Present trends in building envelopes, utilisation of passive solar design and use of natural lighting are often inefficient. Developers can be reluctant to take on board anything not mandated by the Construction Code.

Local governments within Victoria have come together to improve the environmental performance of proposed developments integrating environmental standards within the planning permit processes.

The Council Alliance for a Sustainable Built Environment (CASBE) is a collection of Victorian municipal governments committed to the creation of a more sustainable built environment both within and beyond their municipalities. CASBE originally formed around the joint implementation, promotion and support of the Sustainable Design Assessment in the Planning Process (SDAPP) program.

To facilitate the SDAPP program, a design assessment tool called the Built Environment Sustainability Scorecard[11] (BESS) has been developed for improving the Environmentally Sustainable Design (ESD) outcomes for new residential and non-residential developments beyond minimum legal requirements.

In the long-term, Council aspires to become involved in the SDAPP initiatives (or equivalent) but would require a specialised officer within the Planning and Environment Department to progress these sorts of assessments effectively. This officer would be able to advise residents and developers and assess applications for their ESD merits.

### Key Directions

Introduce an environmentally sustainable development **(ESD) tool for assessing planning permit applications** (e.g. Built Environment Sustainability Scorecard) to ensure energy avoidance and efficiency opportunities are addressed in new developments.

**Train planning staff** to effectively apply ESD principles in planning applications and provide information/material to applicants in the pre-application meetings to ensure ESD is taken into account during the site analysis and in the design response.

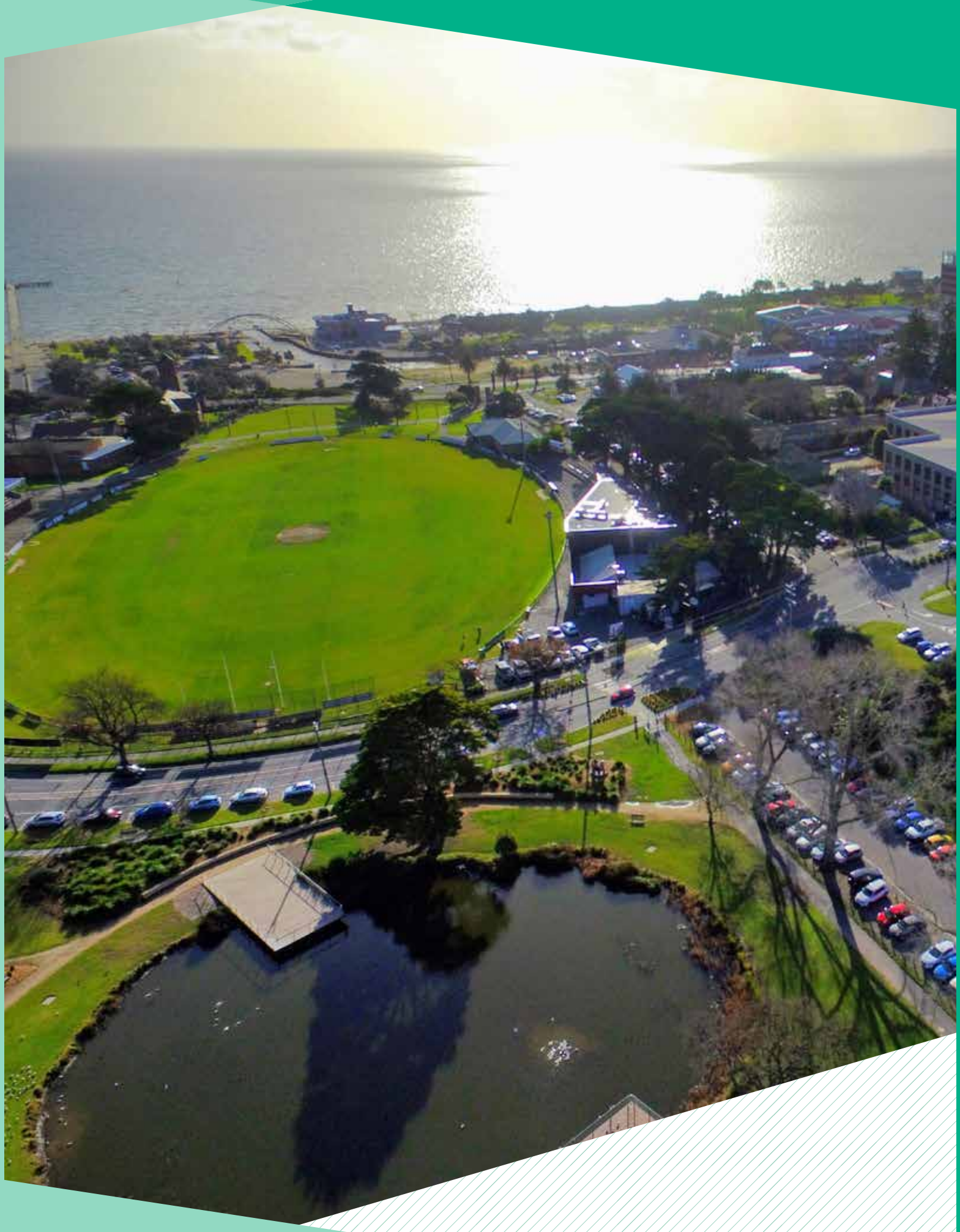
Develop an **ESD policy planning amendment** to the local planning scheme.

Work with other councils to advocate for a **standard for ESD policies** in planning schemes.

Finalise and implement the **Urban Forest and Biodiversity Action Plans** e.g. for planting trees as carbon sinks (i.e. to store carbon) and co-benefits such as reducing the urban heat island effect.

Work with developers to **support distributed renewable energy** (i.e. localised energy production) in new developments.

[8]Frankston City Council Municipal Strategic Statement. Source: planning-schemes.delwp.vic.gov.au
[9]For new residential buildings (including home renovations) this is a minimum six star (or equivalent) energy rating, and for multi-residential buildings a minimum of 5 stars (individually) or 6 stars (collectively). Source: vba.vic.gov.au/consumers/six-star-standard
[10]CHOICE, Home energy efficiency ratings article, February 2018. Source: choice.com.au
[11]Built Environment Sustainability Scorecard, 2018. Source: bess.net.au



# 3. Key Actions

## Culture and Leadership

**Local governments are in a unique position as they are typically the closest level of government to their communities and can demonstrate leadership and foster a culture of environmental responsibility.**

Council will continue to educate and engage its staff, tenants and the broader community in energy efficiency, renewable energy technologies and sustainable living initiatives to build local capacity.

Maintaining and establishing collaborative partnerships with stakeholders such as the Victorian Government and other local councils will also continue to play a key role in implementing collective solutions to climate change, sharing expertise and resources, as well as realising opportunities.

Council has signed up to the Victorian Government's TAKE2 climate change pledge[12] and will continue to publically report on Council's progress against the committed actions as part of this initiative.

In 2017, the Victorian Government independently surveyed over 3,000 Victorians to gain an insight into the attitudes, beliefs and behaviours of residents in relation to climate change[13]. The report provided a comprehensive picture of Victorian's perceptions of climate change.

**Key findings of the survey included:**

- 78% thought that climate change was an issue that required urgent action now
- Four in five Victorians believed that their actions could make a positive difference
- 78% were concerned about climate change and of this group, 76% were concerned about the impact on future generations, 48% the state of the planet and 38% the health and quality of life.

The majority of Victorians surveyed were optimistic about making a positive difference on climate change and were willing to play their part. As a local council, Frankston City Council can continue to build on this willingness to take action and support its community to reduce their carbon footprint and realise other benefits, such as saving money.

Council will also continue to advocate on behalf of its community on issues and opportunities relating to greenhouse mitigation. Monitoring and reporting on the organisation's greenhouse gas emissions will continue to be an important part of understanding and managing Council's emissions.

### Key Directions

Publically **report on Council's energy costs, usage and greenhouse gas emissions.**

Continue to develop, implement and promote targeted **education and engagement services across the community** to encourage the uptake of energy efficiency, renewable energy and emission reduction activities and behaviours.

**Engage and educate Council staff** on emissions and energy saving actions and opportunities in every day work.

Investigate the costs and benefits of offering **Environmental Upgrade Finance for energy saving works** (e.g. lighting upgrades, insulation, solar power) via low interest loans collected through the rates system for Frankston City's businesses and residents, and implement where feasible.

Provide **education and support for Council's tenants** to improve billing literacy, assist them with using energy more efficiently and to identify energy efficiency opportunities.

Further develop and implement **a pilot project with South East Water and Council's Home and Community Care clients** to implement water efficiency and cost saving initiatives in their homes (Health and Wellbeing Plan key action) — expand if possible to include an energy efficiency focus.

**Seek partnerships and external funding as well as advocate** to the Federal and State Government, agencies and organisations on opportunities and matters relating to Council and community greenhouse gas emissions and low carbon alternatives.

[12]Victorian Government, TAKE2 Climate Change pledge, 2018. Source: take2.vic.gov.au

[13]Victorian Government, Victoria's Perceptions of Climate Change report, 2018. Source: sustainability.vic.gov.au


Batteries
renew.
Frankston City
STRIVING FOR
SUSTAINABILITY

# 4. Monitoring and Evaluation

The Towards Zero Emissions Plan will be reviewed on an annual basis to measure progress against the implementation plan (Section 5 of this Plan) and Council's zero net emissions target, as well as to capture and address any emerging challenges or opportunities.

Progress against individual actions will be recorded, alongside an analysis of Council's energy usage, costs and greenhouse gas emissions.

Council will also continue to report publically on its greenhouse gas emissions inventory on an annual basis, through the form of a Council report and via other mechanisms, such as Council's Annual Report.

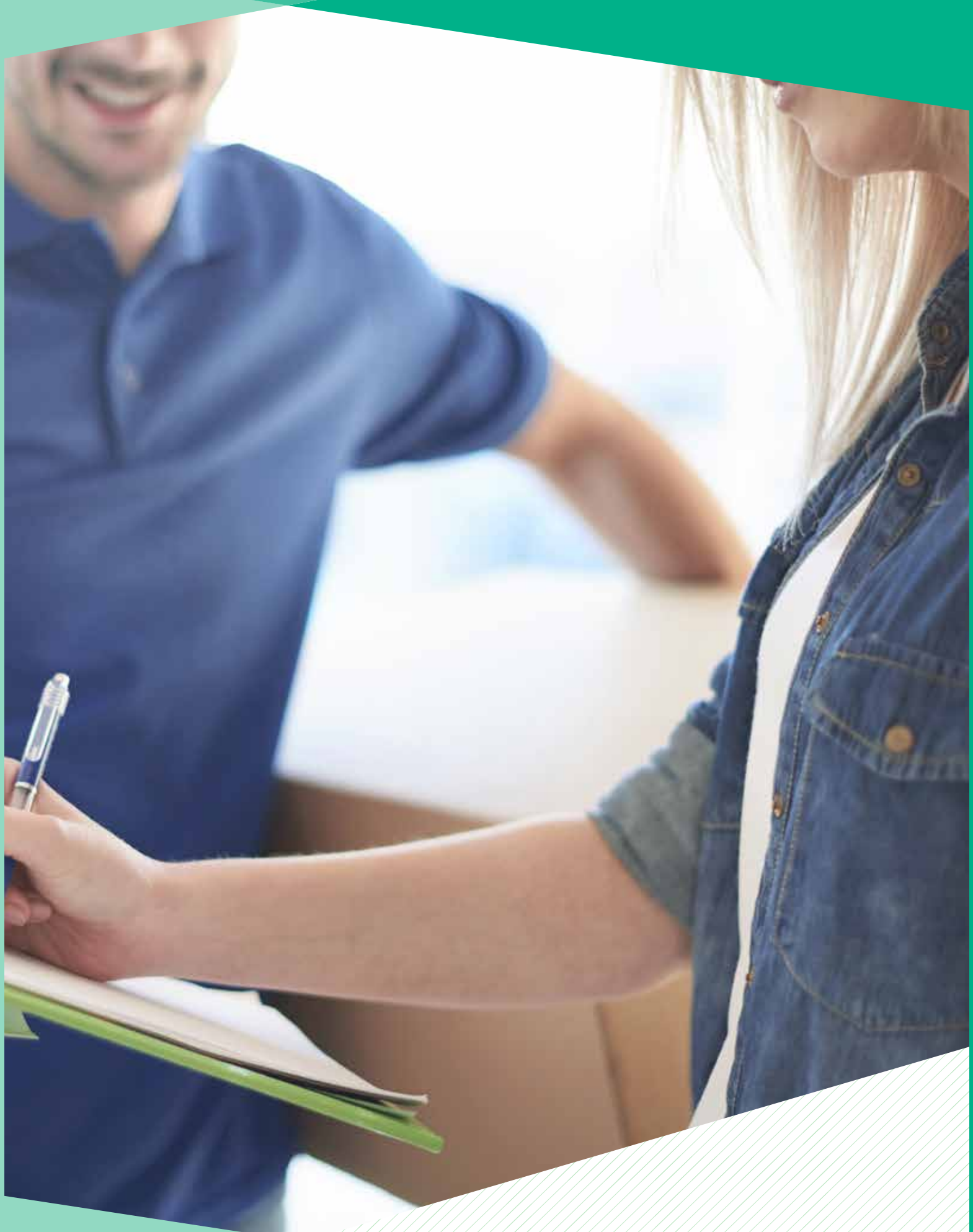
**Key components of Council's monitoring and evaluation of the Plan will include:**

- The ongoing collection, storage and analysis of Council's utility and emissions data, including energy and fuel data managed by third parties (e.g. contractors)
- Ongoing improvement to Council's data collection, quantification methods for calculating emissions and energy and emission reduction savings
- Communication with staff and tenants, where applicable, to assist in monitoring energy usage, as well as identifying and resolving anomalies
- Documenting learnings throughout implementation of the Plan
- Reviewing data and learning outcomes to make ongoing improvements.

Progress and achievements will be communicated via Council's website, social media, e-newsletters, articles in Frankston City News and the sharing of information through other communication channels and networks.

The Plan will be fully evaluated in 2023–24 and reported to Council.

For Council to achieve National Carbon Offset Standard (NCOS) certification for its zero net emissions target in 2025, it will be required to review and report on emissions annually. It should be noted that NCOS certification will require an initial independent audit and a public report of Council's emission reduction activities and achievements in 2025–26 and an independent audit every three years after that. As this Plan spans 2019–2023, the audit will not have a financial impact on Council during the life of the Plan.



# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **FACILITIES** | | | | | | |
| **Measured Emissions** | | | | | | |
| F1 | Ensure energy efficiency works are carried out under Council's **facilities maintenance contract** and allocate additional funding for reactive works to enable high efficiency outcomes. | Ongoing | Partly funded, plus new operating ($100k–$150k per annum) | Building and Facilities | Sustainable Assets | Facilities Maintenance Contractor |
| F2 | Ensure Council's **building management systems (BMS) and heating, cooling and air-conditioning systems (HVAC)** are fit-for-purpose and maximise energy efficiency outcomes (see Table 1 for list of new initiatives). | Ongoing; plus new works (2019-20 to 2021-22) | Partly funded, plus new capital ($141k — Table 1) | Building and Facilities | Arts and Culture (Frankston Arts Precinct FAP); Operations | Facilities Maintenance Contractor |
| F3 | Identify and **follow-up on energy cost and usage anomalies** in Council facilities through regular monitoring, analysis and reporting. | Ongoing | Funded | Commercial Services; Building and Facilities; Sustainable Assets | Facility and Service Managers | Facilities Maintenance Contractor |
| F4 | Continue to implement **Council's ESD Standards for Council Buildings policy** for all Council building projects, to ensure high efficiency and solar on facilities that can support the technology. | Ongoing | New capital (embedded in base budget) | Building and Facilities | Sustainable Assets; Facility and Service Managers | |
| F5 | Review and improve **Council's ESD Standards for Council Buildings policy** to reflect ongoing industry/ regulatory changes and Council learnings. | 2019–20 | Funded | Sustainable Assets | Building and Facilities | |
| F6 | Investigate funding options and develop and implement a proactive program for **energy efficiency upgrades** in Council buildings and other assets (see Table 1 for list of new initiatives). | 2019–20 to 2022–23 | New capital ($240k — Table 1) | Building and Facilities; Sustainable Assets | Other areas (as needed) | |
| F7 | Continue to implement **renewable energy** technologies (e.g. solar power) on Council's existing facilities as per the current capital works program and outcomes of the solar feasibility and detailed design study (Appendix 1). | Ongoing | New capital ($227k — Appendix 1) | Building and Facilities | Sustainable Assets; Other areas (as needed) | |

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **FACILITIES** | | | | | | |
| **Measured Emissions** | | | | | | |
| F8 | Investigate future opportunities and develop and finalise business cases for new **renewable energy** technologies on Council buildings and other assets, and implement where feasible (see Table 1 for list of new initiatives). | 2019–20 to 2022–23 | New capital ($230k — Table 1) | Sustainable Assets (business case); Building and Facilities (implement) | Other areas (as needed) | |
| F9 | Review outcomes of the 2018–19 solar feasibility assessment and roof condition audit for the **Frankston Civic Centre** and implement (or schedule for implementation) where feasible. | 2019–20 | New capital (based on outcomes from assessment/ audit) | Building and Facilities | Sustainable Assets | |
| F10 | Continue to **monitor and evaluate the performance of Council's existing solar power** installations. | Ongoing | Funded | Sustainable Assets (monitoring) | Building and Facilities (contract management); Commercial Services (data/ billing) | |
| F11 | Continue to **investigate and consolidate Council's building stock** to decommission underutilised facilities and to maximise the use and the sharing of facilities. | Ongoing, Long-term Infrastructure Plan | New capital (as opportunities arise) | Service Managers | Building and Facilities; Sustainable Assets | |
| F12 | Implement **training with facilities staff and building users** to ensure optimal outcomes in ESD and energy/ water efficiency. | On a needs basis, formal training every 2 years | Funded | Sustainable Assets (formal training and needs basis); Building and Facilities (needs basis) | Facility and Service Managers | |
| F13 | Develop **guidelines for thermal comfort** to support energy efficiency outcomes in Council facilities. | 2020–21 | Funded | Sustainable Assets | Building and Facilities; Human Resources | |
| F14 | Review outcomes of the 2018–19 energy audit and solar feasibility study for the **Peninsula Aquatic Recreation Centre** (PARC) and prioritise and implement recommendations (or schedule for implementation) where feasible. | 2019–20 | New capital (based on outcomes from audit/study) | Building and Facilities | Sustainable Assets; Commercial Services | Peninsula Leisure |

# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **FACILITIES** | | | | | | |
| **Broader Emissions** | | | | | | |
| F15 | Review current practice and Council's position for investing, managing and maintaining **solar power installations on Council's tenanted facilities.** | 2019–20 | Funded | Sustainable Assets | Building and Facilities; Commercial Services | |
| F16 | Identify and **embed energy efficiency and greenhouse reporting requirements (energy and water)** in appropriate agreements with Council's building tenants e.g. **Green Lease** agreements. | 2019–20 and ongoing | Funded | Sustainable Assets | Commercial Services; Building and Facilities | |
| F17 | Ensure **governance arrangements** and responsibility for both energy and water usage and costs are established and clearly defined at the commencement of each building project and other assets, and are outlined in Council's lease/license agreements. This includes **designing and installing optimum utility metering** requirements. | Ongoing | Funded | Project Sponsors (Council — governance); Commercial Services (governance and metering advice) | Building and Facilities (infrastructure and metering — install); Capital Works Delivery (infrastructure and metering — install) | |
| **PUBLIC LIGHTING** | | | | | | |
| **Measured Emissions** | | | | | | |
| L1 | Finalise research and where feasible, undertake a bulk changeover of existing **T5 and MV street lighting to energy efficient LED** technology on Council managed (minor) roads (Table 1 for new initiatives). | 2019–20 | New capital ($2.01M — Table 1) | Engineering Services | Sustainable Assets; Commercial Services | United Energy |
| L2 | Investigate the feasibility of **upgrading decorative and high pressure sodium lamps to more energy efficient alternatives** (i.e. LED) on assets where Council pays the electricity bills. | 2019 | Funded, outcomes of investigation could require new capital | Engineering Services | Sustainable Assets | VicRoads; United Energy |
| L3 | Continue to specify high energy efficiency outcomes (i.e. LED, solar) for **public lighting in new developments** (i.e. gifted assets). | Ongoing | Funded | Engineering Services | Planning and Environment | Developers |

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **PUBLIC LIGHTING** | | | | | | |
| **Measured Emissions** | | | | | | |
| L4 | Ensure Council's requirements for **new public lighting requests (reactive works)** achieve high energy efficiency outcomes (i.e. LED, solar) and develop standards to achieve this. | Ongoing; New standards (2019–20) | Funded | Engineering Services | Sustainable Assets | |
| L5 | Ensure Council's **public lighting capital works projects** achieve high energy efficiency outcomes using the latest technology (i.e. LED, solar) and develop standards to achieve this. | Ongoing; New standards (2019–20) | Funded | Engineering Services | Capital Works Delivery: Sustainable Assets | |
| L6 | Investigate a changeover to energy **efficient LED technology for Council security lighting** (i.e. buildings and free standing). | Ongoing | Funded | Building and Facilities | Engineering Services; Sustainable Assets | |
| L7 | **Identify and follow up on electricity cost and usage anomalies** for street light assets on Council managed roads through regular monitoring, analysis and reporting. | Ongoing | Funded | Commercial Services; Engineering Services | Sustainable Assets | Electricity retailer/s |
| **Broader Emissions** | | | | | | |
| L8 | **Advocate to VicRoads for the upgrade of street lights** to LED technology along VicRoads managed roads. | Ongoing | Funded | Engineering Services | Sustainable Assets | VicRoads; United Energy; AusNet |
| L9 | Pursue high energy efficiency standards using latest technology where available (i.e. LED) for **outdoor sports ground lighting at Council's tenanted facilities** (e.g. sports and recreation groups), to reduce tenant costs and emissions. | Ongoing | Funded | Community Strengthening | Capital Works Delivery; Sustainable Assets | Tenants |

# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **TRANSPORT AND FLEET** | | | | | | |
| **Measured Emissions** | | | | | | |
| T1 | Investigate and implement as part of the digital transformation project, the resources (technical, software, training, support, space) required for **staff video and teleconferencing** to reduce staff travel for business communication. | 2019–20 (Skype licences) | Partly funded, plus new capital for meeting rooms conferencing technology as part of the digital transformation | Business and Information Technology | Community Relations (meeting rooms conferencing technology) | |
| T2 | Continue to identify and research **fuel efficiency** opportunities to inform the procurement of Council's fleet, and implement where feasible. | Ongoing | Funded | Sustainable Assets | Human Resources; Commercial Services | |
| T3 | Continue to buy **low emission vehicles** for Council's fleet e.g. hybrid, electric vehicles. | Ongoing | Funded, but could require new capital | Sustainable Assets | Human Resources; Financial and Corporate Planning | |
| T4 | Update Council's corporate **motor vehicle code of practice** to reflect changes to the Australian Government's Green Vehicle Guide and ensure best in class efficient vehicles are purchased. | 2019 | Funded, but changes could require new capital | Human Resources; Executive | Sustainable Assets; Financial and Corporate Planning | |
| T5 | Introduce a driver safety and **eco-driving course** for Council staff to improve driver behaviour, reduce fuel consumption and expenditure, as well as educate staff through internal communications. | 2019–20 | Funded | Sustainable Assets | Human Resources | |
| T6 | Encourage staff to use public transport for business related travel by providing and promoting access to **corporate MYKI cards in each department,** resulting in savings in fuel and car parking costs. | 2019–20 | Funded | All Departments | Sustainable Assets | |

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **TRANSPORT AND FLEET** | | | | | | |
| **Measured Emissions** | | | | | | |
| T7 | Include **fuel efficiency standards and greenhouse reporting (fuel usage) requirements** in Council's tender documents or contract reviews for major contracts, i.e. waste services, facilities maintenance, asphalting, plus other contracts where relevant. | 2019 (waste); 2020 (hard waste); 2021 (facilities maintenance); 2019 (asphalting) | Funded | Recycling Services (waste); Building and Facilities (facilities maintenance); Sustainable Assets (asphalting) | Commercial Services; Capital Works Delivery; Other areas (as required) | |
| T8 | Review the **corporate car-pooling system** for Council's passenger fleet, including best practice options in software and technology to maximise utilisation (e.g. by reducing single-person trips). | Ongoing | Funded, but outcomes of review could require new capital ($40k) | Sustainable Assets | | |
| T9 | **Review the utilisation of Council's fleet and rationalise where possible** to improve efficiency, reduce fuel costs and emissions. | Ongoing | Funded | Sustainable Assets; Executive | Human Resources | |
| **Broader Emissions** | | | | | | |
| T10 | Continue to implement and review Frankston City's **Integrated Transport Strategy.** | Ongoing | New capital | Planning and Environment (strategic); Engineering Services (implement) | Capital Works Delivery | |
| T11 | Finalise the review and implement the revised Path Development Plan to **increase more sustainable transport options** (e.g. cycling, walking and public transport) across Frankston City. | Review (2019); Implement (2019–20 and ongoing) | New capital | Planning and Environment (strategic); Engineering Services (implement) | Capital Works Delivery | |

# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **TRANSPORT AND FLEET** | | | | | | |
| **Broader Emissions** | | | | | | |
| T12 | Investigate and where feasible implement actions to **reduce indirect greenhouse gas emissions from Council's road and path construction activities** (e.g. through low carbon asphalt and concrete). | Asphalting (2019) | Funded | Sustainable Assets; Capital Works Delivery; Engineering Services | Other areas (as required) | |
| T13 | Promote and encourage the **greater use of low emission transport options** (e.g. public transport, walking and cycling) across Frankston City through planning, information provision, advocacy, education and program delivery. | 2020–21 and ongoing | New operating budget may be required, subject to the annual budgeting and prioritisation process | Engineering Services | Planning and Environment; Sustainable Assets | Transport providers; Public Transport Victoria |
| T14 | Enhance the **Frankston Metropolitan Activity Centre** (FMAC) (i.e. Frankston city centre) through the development and implementation of an Integrated Transport Strategy to **increase the use of low emission transport options** (e.g. walking, cycling and public transport). | 2020–21 and ongoing | New operating and capital budget may be required, subject to the annual budgeting and prioritisation process | Engineering Services | Planning and Environment; Sustainable Assets | Transport providers; Public Transport Victoria |
| T15 | Continue to invest in and advocate for improvements to transport services and infrastructure in areas of greatest residential density, to increase the public use of **low emission modes of transport.** | Ongoing | New operating and capital budget, subject to the annual budgeting and prioritisation process | Engineering Services (strategic, implementation); Planning and Environment (strategic) | | Transport providers; Public Transport Victoria |

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **WASTE** | | | | | | |
| **Measured Emissions** | | | | | | |
| W1 | Undertake an **internal waste audit of Council facilities** to identify and implement opportunities to reduce waste to landfill from Council operations and improve reporting in this area. | Every two years, commencing 2019–20 | Funded | Sustainable Assets | Building and Facilities; Facility Managers; Recycling Services; Green Network | |
| W2 | Design and implement a system to **divert food waste from Council operations** once a food organics garden organics (FOGO) kerbside collection service is established. | 2019–20 | New operating and capital | Recycling Services | Sustainable Assets | Kerbside waste contractor |
| **Broader Emissions** | | | | | | |
| W3 | Continue to **promote waste avoidance, diversion from landfill and recycling and resource recovery** through community education and engagement programs. | Ongoing | Funded | Sustainable Assets; Recycling Services | Community Relations | |
| W4 | Develop and implement a food organics garden organics (FOGO) **kerbside collection service to reduce food waste** and associated landfill emissions from community waste. | 2019–20 (commence) and ongoing | New operating and capital | Recycling Services | Sustainable Assets; Community Relations | Kerbside waste contractor; Metropolitan Waste and Resource Recovery Group |
| W5 | Continue to implement and review **Council's Waste Minimisation and Management Plan** (2015–2020). | Ongoing; Review (2020) | Funded | Sustainable Assets | Recycling Services | |
| **OFFSETS AND ADDITIONAL CONSIDERATIONS** | | | | | | |
| **Measured Emissions** | | | | | | |
| O1 | Continue to stay abreast of Council's potential to purchase **renewable energy** from large scale generation projects to reduce emissions. | Ongoing | Funded | Commercial Services; Sustainable Assets | Financial and Corporate Planning | Renewable energy generators |

# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **PLANNING AND ENVIRONMENT** | | | | | | |
| **Broader Emissions** | | | | | | |
| P1 | Work with developers to **improve local development standards** to achieve optimum energy efficiency outcomes. | 2019–20 | New operating ($25k–$30k) | Planning and Environment | Sustainable Assets; Engineering Services | |
| P2 | Introduce an environmentally sustainable development **(ESD) tool for assessing planning permit applications** (e.g. Built Environment Sustainability Scorecard) to ensure energy avoidance and efficiency opportunities are addressed in new developments, and for consistency in methodology across local councils. | 2019–20 | New operating Annual costs: CASBE membership ($6k); BESS tool ($7.5k) | Planning and Environment | Sustainable Assets; Building and Facilities; Engineering Services; Capital Works Delivery | MAV — Council Alliance for a Sustainable Built Environment (CASBE) |
| P3 | **Train planning staff** to effectively apply ESD principles in planning applications and provide information/ material to applicants in the pre-application meetings to ensure ESD is taken into account during the site analysis and in the design response. | 2019–20 | As above (see action P2) | Planning and Environment | Sustainable Assets | CASBE |
| P4 | Develop an **ESD policy planning amendment** to the local planning scheme. | 2019–20 | New operating ($40k) | Planning and Environment | Sustainable Assets; Building and Facilities; Engineering Services; Capital Works Delivery | |
| P5 | Resource a dedicated officer to conduct **on-site ESD inspections** for developments once built, to ensure compliance with the ESD policy planning amendment as above (see action P4). | 2020–21 | New operating ($82k–$93k per annum) | Planning and Environment | | |
| P6 | Work with other councils to advocate for a **standard for ESD policies** in planning schemes. | Ongoing | Funded | Planning and Environment | Sustainable Assets | Other councils |


| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **PLANNING AND ENVIRONMENT** | | | | | | |
| **Broader Emissions** | | | | | | |
| P7 | Finalise and implement the **Urban Forest and Biodiversity Action Plans**, e.g. for planting trees as carbon sinks (to store carbon) and deliver co-benefits such as reducing the urban heat island effect. | 2019–20 and ongoing | New capital and operating | Planning and Environment | Various — dependent on actions being considered | |
| P8 | Work with developers to **support distributed renewable energy** (i.e. localised energy production) in new developments, where opportunities arise. | Ongoing | Funded | Planning and Environment | Sustainable Assets | Developers; United Energy |
| **CULTURE AND LEADERSHIP** | | | | | | |
| **Measured Emissions** | | | | | | |
| C1 | **Engage and educate Council staff** on emissions and energy saving actions and opportunities in every day work. | Ongoing | Funded | Sustainable Assets | Building and Facilities; Community Relations; Green Network | |
| C2 | Identify Council's **major contracts (and other contracts where feasible) where energy and emissions could be reduced** and introduce high energy efficiency requirements to reduce the impact of operational and lifecycle energy usage/costs and emissions. | Ongoing | Funded | Contract Managers, Sustainable Assets | Commercial Services | |
| C3 | Include high energy efficiency requirements in the next tender for Council's lease of multi-functional **printers and copiers.** | 2019 | Funded | Business and Information Technology | Commercial Services | |
| C4 | Continue the roll-out of Council's **workstation fleet (i.e. computers and equipment)** with high energy efficiency requirements. | 2019–20 | Funded | Business and Information Technology | Commercial Services | |
| C5 | Include **fossil fuel evaluation criteria** in Council's tender for banking services. | 2019–20 | Funded | Financial and Corporate Planning | Sustainable Assets | |

# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **CULTURE AND LEADERSHIP** | | | | | | |
| **Measured Emissions** | | | | | | |
| C6 | **Continue to work with regional greenhouse alliances** where practical and feasible to progress Council's corporate emission reduction priorities and opportunities (also see Action C15 under 'Broader Emissions'). | Ongoing | Partly funded | Sustainable Assets | Various — dependent on opportunities being considered | Regional alliances |
| C7 | Publically **report on Council's energy costs, usage and greenhouse gas emissions.** | Summary report (6 monthly); Full greenhouse inventory (annual) | Funded | Commercial Services (costs/ billing); Sustainable Assets (usage/ emissions) | Financial and Corporate Planning | |
| C8 | **Seek partnerships and external funding as well as advocate** to the Federal and State Government, agencies and organisations on opportunities and matters relating to Council and community greenhouse gas emissions and low carbon alternatives. | Ongoing | Funded | Various – dependent on matter being considered | | |
| C9 | **Continue to support the Victorian Government's TAKE2 climate change pledge** and publically report on Council's progress against committed actions. | Ongoing | Funded | Sustainable Assets | Various — dependent on actions being considered | Sustainability Victoria |
| C10 | Investigate the **benefits of joining organisations and groups working on greenhouse mitigation** (e.g. Cities Power Partnership) to ensure Council keeps abreast of new projects, developments and opportunities as they arise. | Ongoing | Funded | Sustainable Assets | Various — dependent on actions being considered | |

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **CULTURE AND LEADERSHIP** | | | | | | |
| **Broader Emissions** | | | | | | |
| C11 | Continue to develop, implement and promote targeted **education and engagement services across the community** to encourage the uptake of energy efficiency, renewable energy and emission reduction activities and behaviours. | Ongoing | Funded | Sustainable Assets | Community Relations; Community Strengthening | |
| C12 | Provide **education and support for Council's tenants** to improve billing literacy, assist them to use energy more efficiently and identify energy efficiency opportunities. | Ongoing | Funded | Sustainable Assets | Service Managers (internal); Commercial Services | |
| C13 | Investigate the costs and benefits of offering **Environmental Upgrade Finance for energy saving works** (e.g. lighting upgrades, insulation, solar power) via low interest loans collected through the rates system for Frankston City's businesses and residents, and implement where feasible. | 2019–20 | New operating (administration), if implemented | Sustainable Assets (investigation, promotion); Community Relations (promotion) | Financial and Corporate Planning (investigation, | |
| C14 | Further develop and implement a **pilot project with South East Water and Council's Home and Community Care clients** to implement water efficiency and cost saving initiatives in their homes (Health and Wellbeing Plan key action) — expand if possible to energy efficiency focus. | 2019; Future years dependent on funding | Funded | Community Strengthening; Sustainable Assets | Family Health Support Services | |
| C15 | **Continue to work with regional greenhouse alliances** where practical and feasible to progress Council's community carbon emission reduction priorities and opportunities (also see C6 under 'Measured Emissions'). | Ongoing | Partly funded | Sustainable Assets | Various — dependent on opportunities being considered | Regional alliances |

# 5. Implementation Plan (2019–2023)

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **CULTURE AND LEADERSHIP** | | | | | | |
| **Broader Emissions** | | | | | | |
| C16 | Advocate to the Victorian Government to **improve the environmental performance standards of low cost housing** (including rental properties) for improved thermal comfort, healthy living conditions and efficiency. | Ongoing | Funded | Planning and Environment | Sustainable Assets | Victorian Government |
| C17 | Support **community owned renewable energy generators** and retailers, where possible. | Ongoing | Funded | Sustainable Assets; Planning and Environment | | |
| C18 | Encourage staff and community to **TAKE2** — the Victorian Government's climate change pledge. | Ongoing | Funded | Sustainable Assets | Community Relations | Sustainability Victoria |
| C19 | Continue to stay abreast of the latest research and innovations emerging from **Smart City technologies for Council assets and through city and infrastructure planning,** particularly as they relate to energy and emissions reduction. | Ongoing | Funded | Sustainable Assets; Building and Facilities; Engineering Services; Capital Works Delivery | Business and Information Technology; Planning and Environment | |

| Ref No. | Action | By When or Frequency | Investment ($) | Responsible Council Department | Internal Partners | External Partners |
|---|---|---|---|---|---|---|
| **MONITORING AND EVALUATION** | | | | | | |
| **Measured Emissions** | | | | | | |
| M1 | Maintain Council's **utility management software** (Utility Tracker) and GIS utility meter layer to capture energy, water and greenhouse data for Council. | Ongoing; GIS mapping update (every two years) | Funded | Commercial Services | Sustainable Assets; Business and Information Technology | |
| M2 | **Monitor, evaluate and regularly report on Council's energy usage, costs and emissions,** including following up and resolving billing anomalies. | Summary report (6 monthly); Full greenhouse inventory (annual) | Funded | Commercial Services (costs/ billing); Sustainable Assets (usage/ targets) | Financial and Corporate Planning; Various — dependent on asset | |
| M3 | Investigate software options for future reporting on Council's energy and emissions, including provision of real time data for improved monitoring and reporting. | 2020–21 | Funded, but outcomes of options assessment could require new operating budget | Commercial Services | Sustainable Assets; Business and Information Technology | |
| M4 | Continue to **align Council's greenhouse reporting methodology with the Australian Government's voluntary standards and guidelines** where practical, and to prepare for the possibility of future legislative reporting requirements and Council's 2025 zero net emissions target and certification. | Annual review | Dependent on recommended changes | Sustainable Assets | Commercial Services | |

# 6. Appendix 1

***Table 3*** highlights the additional solar power installations planned as part of Council's Long-Term Infrastructure Plan and existing capital works program. This list is from a detailed solar feasibility and detailed design study undertaken by Council of its community use facilities. These systems are planned for Council's existing tenanted facilities, and as such, do not contribute to reducing Council's greenhouse gas emissions. The list is not exhaustive as ongoing opportunities for solar power installations will arise.

These actions are included in Section 5 — **Implementation Plan.**

**Table 3: List of remaining solar power projects proposed for Council's tenanted facilities, per original solar feasibility and detailed design study**

| Site | Estimated Investment ($) | Solar Capacity (Kilowatts) | Estimated Payback Period (years) | Estimated Emissions Reduction (annual $tCO_2$-e) |
|---|---|---|---|---|
| Carrum Downs Football/Cricket Pavilion, Carrum Downs Recreation Reserve (Len Phelps Pavilion) | $13,000 | 5.00 kW | 10 | 8.6 |
| Carrum Downs Tennis Clubhouse, Carrum Downs Recreation Reserve | $5,500 | 2.00 kW | 9 | 3.0 |
| Cricket/Rugby Pavilion (inc. Seaford Little Athletics), Riviera Reserve | $50,600 | 17.50 kW | 11 | 29.1 |
| Football/Cricket Pavilion, Delacombe Park Reserve | $11,000 | 4.00 kW | 10 | 6.0 |
| Frankston BMX Club, Frankston BMX Track | $10,600 | 4.00 kW | 11 | 5.0 |
| Kevin Collopy Pavilion (Frankston Peninsula Cricket Club, Frankston YCW Football/Netball Club), Jubilee Park | $36,000 | 15.00 kW | 11 | 23.0 |
| Long Island Soccer/Cricket Pavilion (Peninsula Strikers Junior Soccer), Ballam Park (aka Ballam South Pavilion) | $30,900 | 10.00 kW | 9 | 17.0 |
| Senior Pavilion and Club Room (Langwarrin Football/ Netball Club), Lloyd Park (Oval 1) | $13,250 | 5.00 kW | 9 | 8.0 |
| Soccer Pavilion (Frankston Pines), Monterey Reserve | $43,200 | 15.00 kW | 9 | 25.4 |
| Yamala Park Bowling Clubhouse, Yamala Reserve | $13,000 | 5.00 kW | 10 | 8.0 |

# 7. Glossary

**Broader Emissions** — Greenhouse gas emissions produced or managed by others but are able to be influenced or supported by Council.

**Carbon Neutrality** — Having a net zero carbon footprint or carbon neutrality. This means that the net emissions associated with Council's operations 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 own activities.

**Emissions Inventory** — The itemisation and measurement of an organisation's total greenhouse gas emissions to the atmosphere, generated from its use of energy and production of waste and natural resources over a set period of time.

Council measures and reports annually on emissions generated from all operations which it has full operational control, plus emissions that are managed by others on behalf of Council that we can seek to influence and readily measure.

**Energy Efficiency** — Energy efficiency initiatives reduce the amount of energy required to produce a unit of output or to achieve a particular outcome. It is well recognised that improving energy efficiency is potentially one of the fastest and most cost-effective ways of reducing energy usage and greenhouse gas emissions. Improving energy efficiency delivers a range of benefits – for example, it reduces pressure on organisational and household budgets from increasing energy prices, it can improve the level of comfort in buildings, as well as provide greater energy security.

**Energy Reduction Hierarchy** — Provides a step-by-step approach to reducing energy use and improving energy efficiency. The Energy Reduction Hierarchy consists of four steps to identify ways to manage and reduce energy usage and emissions. The steps, in order of priority are: avoidance of energy use, energy efficiency, switching to cleaner energy alternatives and purchasing offsets for any unavoidable (residual) emissions.

**Environmentally Sustainable Design (ESD)** — In the context of Council facilities, the aim of ESD is to build facilities that are comfortable, improve the health of the occupants and have minimal impacts on the environment, for example, through good passive solar design, energy efficiency, choice of materials and the use of renewable energy technologies.

ESD helps to protect the environment, future-proof against rising energy and water costs and reduce the impacts of climate change. ESD buildings include high efficiency outcomes and aim to be durable, adaptable and fit-for-purpose to create a sustainable asset for years to come.

**Fleet** — Are all Council owned vehicles which consist of passenger vehicles, light commercial vehicles, trucks and buses, heavy plant and equipment, plus minor plant.

**Gifted Asset** — Also means a donated asset. It is an asset constructed by a party other than Council and then handed over to Council to maintain e.g. roads and drainage in new housing estates.

**Greenhouse Gas (GHG) Emissions** — Any atmospheric gas that is capable of trapping and holding heat in the atmosphere by absorbing thermal infrared radiation which can contribute to global warming.

Examples include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($NO_2$), and water vapour ($H_2O$). GHG emissions are often represented in tonnes of carbon dioxide equivalent ($tCO_2$-e) for reporting purposes.

**Global Warming** — The rise in the Earth's average temperature which is caused by increasing concentration of greenhouse gas emissions in the atmosphere, predominantly from human activities, like the burning of fossil fuels and deforestation.

**Measured Emissions** — Emissions directly associated with Council's operations and that Council can directly influence, control and typically measure and report on.

**National Carbon Offset Standard (NCOS)** — The Australian Government introduced the National Carbon Offset Standard (NCOS) on 1 July 2010. It is a voluntary standard to manage greenhouse gas emissions and to achieve carbon neutrality. The standard sets guidance for measuring, reducing, offsetting, reporting and auditing the carbon footprint of an organisation, products and services, events, precincts and buildings. It also provides guidance on voluntary carbon offsets. Organisations use the NCOS to credibly claim carbon neutrality and to seek carbon neutral certification.

**National Greenhouse and Energy Reporting (NGER) Scheme** — Is a national framework introduced in 2007 to provide data and accounting for reporting on corporate greenhouse gas emissions and energy usage. The objectives of the Scheme are to; inform government policy formulation, help meet Australia's international reporting obligations, plus avoid duplication of similar reporting requirements in the States and Territories by providing a single national reporting framework for data and accounting greenhouse gas emissions.

***National Greenhouse and Energy Reporting Act 2007* (NGER Act) and Protocol** — NGER is a national framework for the collation and reporting of greenhouse gas emissions and the energy usage of corporations. The NGER scheme or framework operates under the NGER Act.

**Operational Control** — The greatest authority to introduce and implement any or all of the following for a facility — operating policies, health and safety policies, environmental policies. Only one corporate entity can have operational control over a facility at any one time.

**Renewable Energy** — Renewable energy is generated from sources such as wind, solar, hydro, wave, geothermal 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.

**Unavoidable Emissions** — Emissions that cannot be avoided or prevented. Examples of these are emissions associated with transport such as air travel and energy generation. Carbon offsets can be purchased to negate these.

**Workstation Computers and Equipment** — Is an individual employee's computer and various office equipment used to carry out their day to day work at their place of business.

**Zero Net Emissions** — Having a net zero carbon footprint or carbon neutrality. This means that the net emissions associated with an organisations operations are equal to zero, through a combination of emission reductions and offsetting of unavoidable (remaining or residual) emissions.

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*Seaford » Frankston » Langwarrin » Karingal » Skye » Frankston South » Frankston North » Carrum Downs » Langwarrin South » Sandhurst*