

EMISSIONS REDUCTION PLAN FOR OUR OPERATIONS

2016 - 2021



CITY OF MELBOURNE

AN ECO CITY

We provide solid foundations for the sustainability of Melbourne's communities. We embrace the unfamiliar if it helps us achieve our ambitions. We continue to encourage our community to take positive actions and we lead by example locally, nationally and globally.



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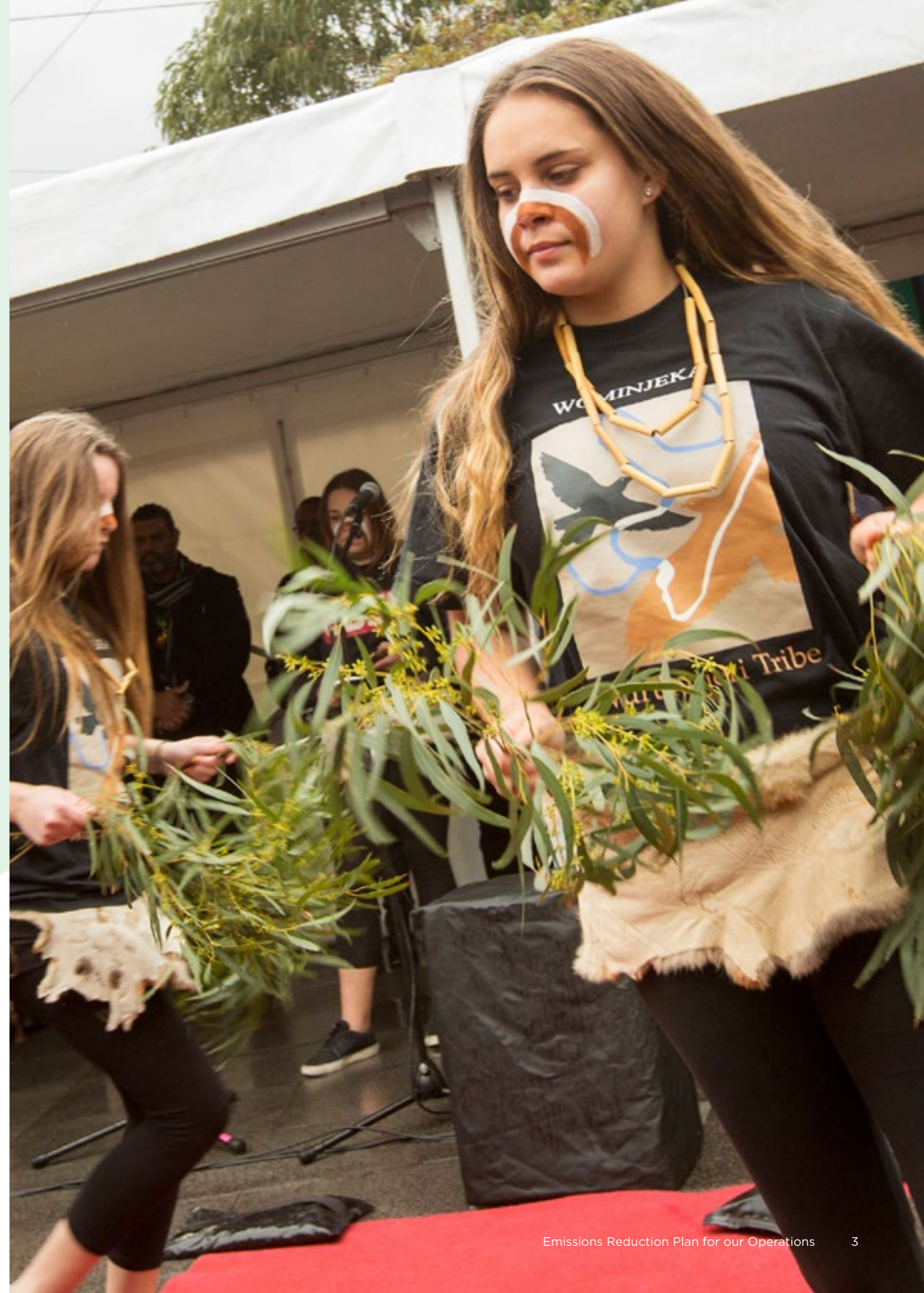
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Disclaimer

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ACKNOWLEDGEMENT OF MELBOURNE'S TRADITIONAL OWNERS

The City of Melbourne respectfully acknowledges the Traditional Custodians of the Land. For the Woiwurrung (Wurundjeri), Boonwurrung, Taungurong, Dja Dja Wurrung and the Wathaurung groups who form the Kulin Nation, Melbourne has always been an important meeting place for events of social, educational, sporting and cultural significance. Today we are proud to say that Melbourne is a significant gathering place for all Aboriginal and Torres Strait Islander people.

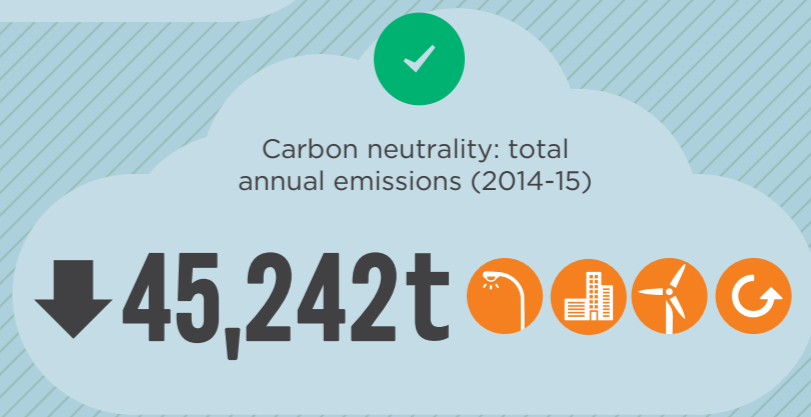
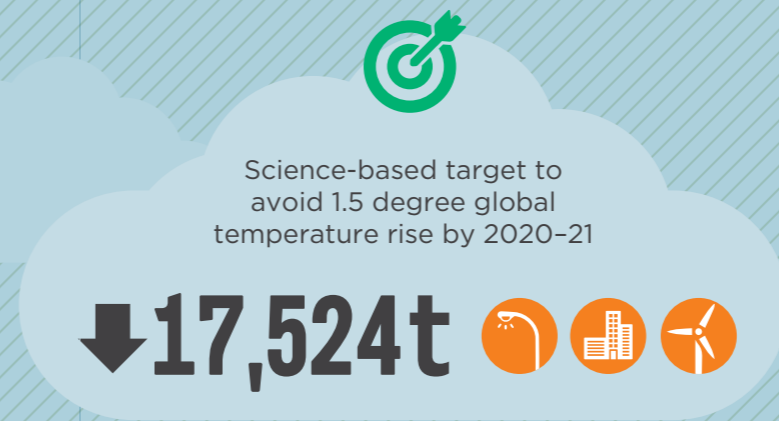
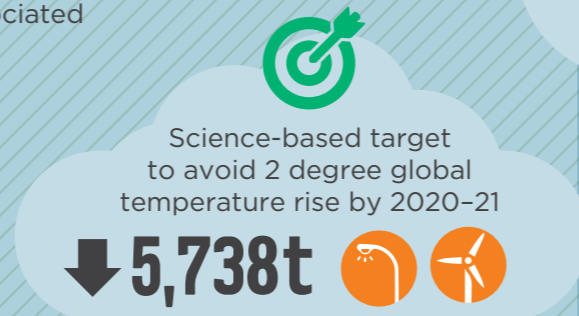


OUR EMISSIONS REDUCTION PLAN AT A GLANCE

How do we maintain carbon neutrality?

Being carbon neutral means the net greenhouse gas emissions associated with an organisation's or city's activities are equal to zero.

OUR EMISSION REDUCTION TARGETS



- ↓ Tonnes of CO₂ emissions to be reduced each year
- ✓ Reduction target achieved
- 🎯 Reduction target will be achieved
- 💡 Target achieved by street light energy savings
- 🏢 Target achieved by building energy savings
- 🌿 Target achieved by renewable energy
- ♻️ Target achieved by offsets

MAJOR SOURCES OF GREENHOUSE GAS EMISSIONS FROM OUR ORGANISATION



THE JOURNEY SO FAR:

2003

The City of Melbourne set a goal for its operations to become carbon neutral by 2020, and a goal for zero net emissions by 2020 across the municipality.

2010

The Australian Government developed the National Carbon Offset Standard (NCOS) and Carbon Neutral Program for organisations.

2012

The City of Melbourne achieved carbon neutral certification for our operations for the NCOS baseline year 2011-12. We have maintained certification each subsequent year.

2015

The City of Melbourne achieved the target to reduce emissions from our operations by 10 per cent compared to 2010-11.

2015

More than 170 countries committed to the Paris Climate Change Agreement, which set a target to limit global temperature rise to under 2°C by and recognised the role of cities for the first time.

2016

The Australian Government signed the Paris Climate Change Agreement. The Victorian Government committed to carbon neutrality for the State of Victoria by 2050. The City of Melbourne calculated science-based emission reduction targets for its operations and maintained carbon neutrality.

EXECUTIVE SUMMARY

The City of Melbourne acknowledges and respects the customs, traditions and knowledge of Aboriginal people and their unique relationship with the land, waterways and sea. We recognise our shared responsibility to Care for Country by addressing the causes of climate change that will impact on present and future generations and our environment.

Our Zero Net Emissions by 2020 Strategy¹ sets clear, ambitious objectives to reduce our greenhouse gas emissions to maintain carbon neutrality for our operations.

Being carbon neutral means the net greenhouse gas emissions associated with an organisation's or city's activities are equal to zero².

This *Emissions Reduction Plan for our Operations* summarises the actions that the City of Melbourne will take to reduce emissions from our activities between 1 July 2016 and 30 June 2021, to maintain our carbon neutrality.

Each year, the City of Melbourne measures and publicly reports the amount of emissions generated from our services. We undertake projects to reduce emissions from our facilities and services, and we purchase high quality certified carbon offsets to ensure that any remaining emissions are reduced to zero. This is called 'zero net emissions'. Since 2012 the City of Melbourne has been certified as a carbon neutral organisation according to the National Carbon Offset Standard³.

In 2014-15, we generated 45,242 tonnes of carbon dioxide equivalent from our operations. The emissions from energy use in street lights (39 per cent) and buildings (29 per cent) accounted for 68 per cent of the organisation's total greenhouse gas emissions. The services provided by Citywide, a subsidiary of

the City of Melbourne, contributed a further 13 per cent to total emissions and the Queen Victoria Market contributed 4 per cent.

Our emissions reduction target

The 2015 Paris Climate Change Agreement introduced science-based emission reduction targets to limit global temperature rise to well below 2°C and to pursue efforts to limit it to 1.5°C above pre-industrial levels. It also recognised, for the first time, the role that cities play in reducing emissions.

The City of Melbourne has calculated the emissions that need to be reduced by our organisation to contribute to this international effort. We need to reduce our emissions by 1.5 per cent each year or around 5,738 tonnes of carbon dioxide equivalent to avoid a 2°C rise in global average temperature by 2050.

To do our share to avoid a 1.5°C rise in global average temperature by 2050, we need to do even more, and reduce our emissions by approximately 4.5 per cent each year, or 17,524 tonnes of carbon dioxide equivalent. This is based on our 2011-12 baseline year for the National Carbon Offset Standard. It is anticipated that these calculations will need to be adjusted in response to the projections of climate scientists, particularly in relation to the target needed to avoid a 1.5°C rise in average global temperature.

The City of Melbourne has met its 2018 emissions reduction target of 10 per cent by 2018 compared to the 2010-11 baseline year.

The actions described in this plan will achieve further emission reductions of 4.5 per cent per year to meet or exceed the 1.5°C science-based target.

Priorities for action

This plan describes the actions we will take to reduce emissions from our operations over five years from 1 July 2016 to 30 June 2021, in seven priority areas:

1. Develop a low carbon culture
2. Celebrate Melbourne, without the emissions
3. Zero carbon for our buildings
4. Queen Victoria Market renewal
5. Carbon neutral goods and services
6. Zero carbon transport
7. Reduce emissions from waste

We are committed to reporting annually to the community on our progress in delivering these actions.

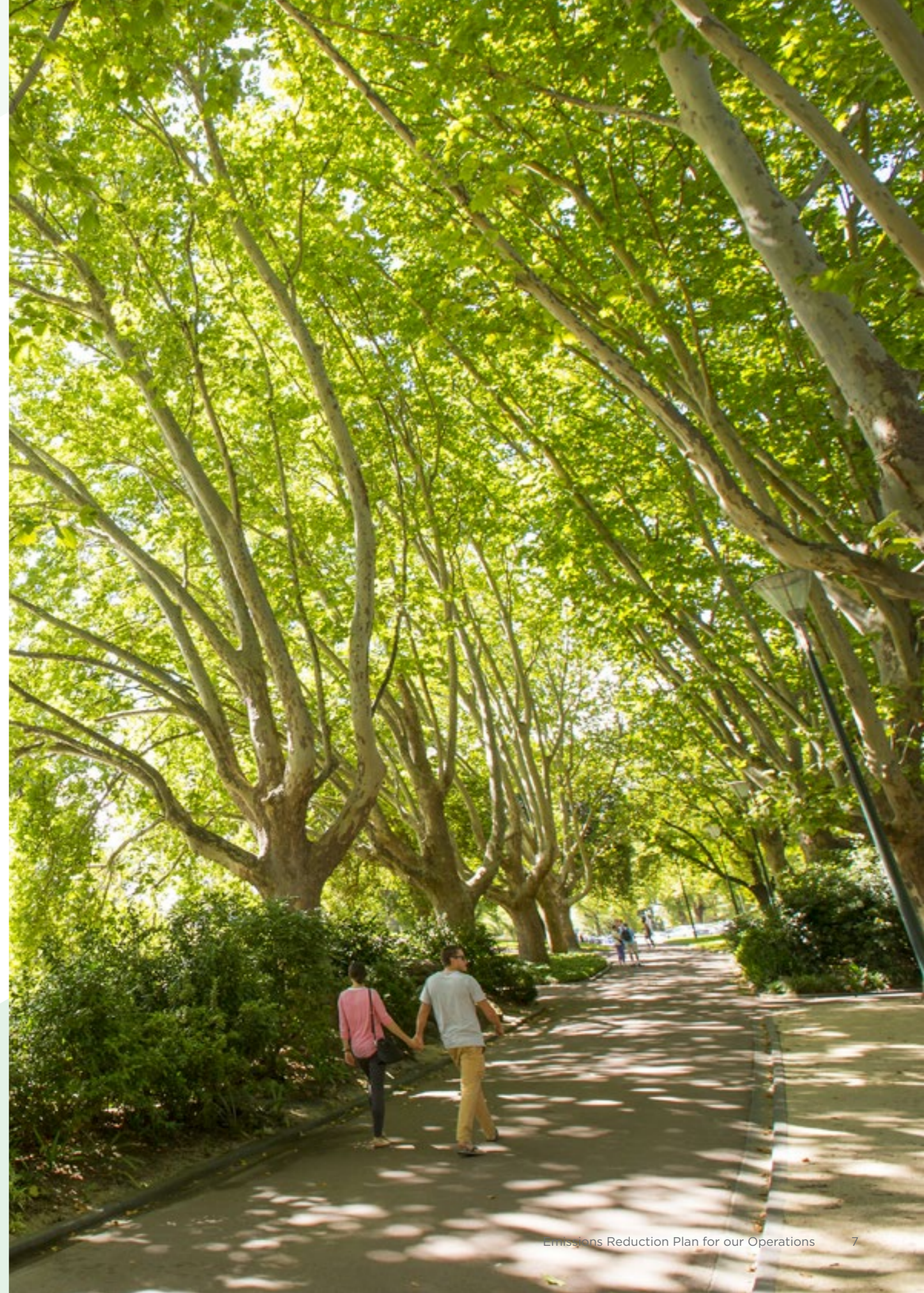
The emissions of our organisation are less than one per cent of municipality-wide emissions. To achieve zero net emissions by 2020 for the municipality, we need other organisations and businesses located in the City of Melbourne to start the journey toward carbon neutrality by first measuring, then reducing emissions, purchasing renewable energy and offsetting any residual emissions.

By sharing the approach we are taking to reduce emissions at the City of Melbourne, we would like to encourage other cities to also work toward carbon neutrality.

1. City of Melbourne *Zero Net Emissions by 2020 Strategy Update 2014*.

2. The terms 'carbon neutral' and 'zero net emissions' are interchangeable in meaning.

3. According to the National Carbon Offset Standard (NCOS) organisations report on all emissions within operational control. The Queen Victoria Market is a wholly owned subsidiary and the City of Melbourne is responsible for capital works at the site including the planned \$250 million redevelopment. However the City of Melbourne does not have operational control of Citywide's operations. For that reason, only the services that Citywide supplies to the City of Melbourne are included in the City of Melbourne organisational emissions inventory according to the National Carbon Offset Standard.



CARING FOR COUNTRY AND ENVIRONMENTAL SUSTAINABILITY

We seek to understand and embrace reconciliation by respecting and honouring the knowledge held by Aboriginal people about Caring for Country.

Caring for Country acknowledges the responsibility held by present generations to respect the traditional knowledge, custodianship and kinship that Aboriginal people have with the land and its inhabitants. In the urban context of Melbourne it is important we do not reduce Caring for Country to the mere conservation of natural resources. We need to respect the deep sense of responsibility held for thousands of years by generations of the Kulin Nation. It is a holistic approach that emphasises the connections between cultural, environmental, economic and societal systems.

Sometimes, the term 'environmental sustainability' reduces the concept of nature to its usefulness as a natural resource. For example, when we describe energy, water and resource efficiency we are describing nature as a commodity to be conserved, but not acknowledging the deeper meaning of custodianship. Similarly, the concept of 'triple bottom line' represents a balance between competing environmental, social and economic values from an economic perspective without acknowledging the value of animals, plants, rivers and the land in traditional terms, or for their own sake.

The increased heatwaves, storms, and floods resulting from climate change will impact on present and future generations and the plants, animals, land, water and seasons of Melbourne. This *Emissions Reduction Plan* describes the actions the City of Melbourne and its stakeholders will take to reduce our contribution to climate change, while acknowledging the need to go further than the environmental, social and economic 'pillars' of environmental sustainability to integrate reconciliation into this work. The Emissions Reduction Plan is guided by principles which require our decisions to deliver positive social outcomes. As part of this, the plan acknowledges the cultural change needed to support stronger relationships with Aboriginal and Torres Strait Islander people, and to integrate an ethic of Caring for Country.

OUR COMMITMENT TO CARBON NEUTRALITY

The Zero Net Emissions by 2020 strategy includes a commitment to reduce emissions and to maintain carbon neutrality for our operations.⁴

Being carbon neutral means the net greenhouse gas emissions associated with an organisation's or city's activities are equal to zero.⁵ For an organisation to attain carbon neutral certification it needs to measure and report its emissions annually, take action to reduce emissions and purchase certified offsets equivalent to any remaining emissions. The formal requirements are described in the National Carbon Offset Standard (NCOS) and certified by the Carbon Neutral Program.

This *Emissions Reduction Plan* summarises the actions that the City of Melbourne will take to reduce its operational emissions between 1 July 2016 and 30 June 2021. It also introduces science-based targets to demonstrate the reduction in emissions needed for us to contribute to international efforts to limit global temperature rise to under 2°C by 2050. Lastly, it demonstrates how we exceed these targets to achieve zero net emissions for our operations.

The emissions of our organisation are less than one per cent of municipality-wide emissions. To achieve zero net emissions by 2020 for the municipality, we need other organisations and businesses located in the City of Melbourne to start the journey toward carbon neutrality by first measuring, then reducing emissions, purchasing renewable energy and offsetting any residual emissions.

By sharing the approach we are taking to reducing emissions at the City of Melbourne, we seek to encourage other cities, businesses and organisations to take responsibility for their environmental impacts and work toward carbon neutrality.

Carbon neutral decision-making principles

Three essential principles form the basis of the City of Melbourne's *Carbon Neutral Strategy*, and are incorporated into every step of our efforts to maintain carbon neutrality. The principles are:

1. Compliance with the NCOS Carbon Neutral Standard

This is considered the Australian Standard for achieving and claiming carbon neutrality for an organisation or product.

2. Social responsibility

The City of Melbourne must consider the social impact of all decisions to reduce carbon emissions and in the purchase of offsets. Decisions that have positive social outcomes will be prioritised.

3. Timeliness

The City of Melbourne became a certified carbon neutral organisation in 2012 and has since maintained carbon neutral certification without compromising cost effectiveness or quality.

In addition to these essential principles, the following important principles are taken into consideration where feasible, for all decisions made. The principles, in priority order are:

1. Certainty in emissions reduction

The City of Melbourne will prioritise activities and offsets that deliver a high level of confidence in the resulting emissions reductions.

2. Transparency in what we do

The City of Melbourne will be transparent to stakeholders about our emissions impact, how we go about reducing that impact and all associated decision-making processes and assumptions.

3. Cost effectiveness

The City of Melbourne will prioritise actions which achieve the greatest emissions reduction at the lowest cost.

4. Leadership by example

The City of Melbourne will seek to deliver an approach to carbon neutrality that demonstrates leadership to the Melbourne community.

5. Biodiversity

The City of Melbourne will prioritise actions which have a positive impact on biodiversity in Melbourne, Australia and overseas.

6. Transparency of suppliers

The City of Melbourne will encourage our suppliers to be transparent about their emissions impacts, what actions they take to minimise their impacts and their associated decision making processes and assumptions.

These principles ensure the emission reduction projects identified in this plan will be effective, transparent and cost-effective. They also take into account the need to lead by example, have a positive impact on biodiversity and engage our supply chain.

4. The City of Melbourne *Zero Net Emissions by 2020 Strategy Update 2014* p.4. The baseline year for this target is 2010-11.

5. The terms 'carbon neutral' and 'zero net emissions' are used interchangeably in this document.

Scope of the Emissions Reduction Plan

The City of Melbourne reviewed all sources of emissions reported under the National Carbon Offset Standard (NCOS) and prioritised the largest sources of emissions to identify emission reduction projects.

In 2014-15, we generated 45,242 tonnes of carbon dioxide equivalent from our operations. The emissions from energy use in street lights (39 per cent) and buildings (29 per cent) accounted for 68 per cent of the organisation's total greenhouse gas emissions. The supply chain also includes services identified with local government operations such as the management of recreation facilities, parks and gardens which contribute to our emissions and are included within the scope of the *Emissions Reduction Plan*.

The services provided by Citywide, a subsidiary of the City of Melbourne, contributed a further 13 per cent to total emissions. The majority of Citywide's emissions were generated by diesel use in the collection of waste and other services. A further five per cent of emissions were generated by the transport fuel from corporate vehicle fleet and contracted services such as street cleaning, lawn mowing and garden maintenance.

The Queen Victoria Market contributed four per cent of total emissions. While these are not directly under our operational control; the City of Melbourne is responsible for capital works at the site including the planned renewal project.

The remaining 10 per cent of emissions from our operations were generated by the supply of additional goods and services, as well as natural gas, refrigerants and indirect (scope 3) emissions from waste, and water.

The Australian Government's Carbon Neutral program guidelines require all sources of emissions greater than one per cent of total emissions to be included in the *Emissions Reduction Plan*, and no greater than five per cent of emissions to be excluded on that basis.

The guidelines also require local governments to report on indirect emissions (called 'scope 3' emissions) which relate to the supply chain and downstream impacts.

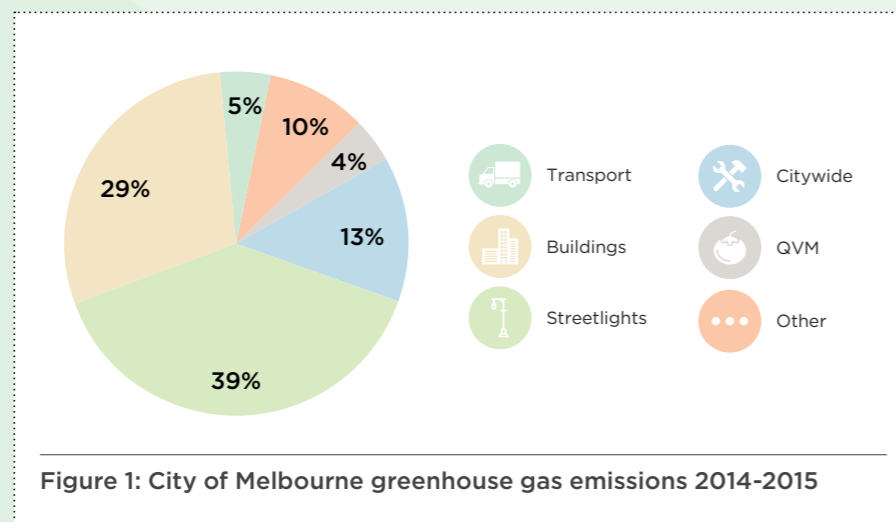


Figure 1: City of Melbourne greenhouse gas emissions 2014-2015

EMISSIONS REDUCTION TARGET

Paris Climate Change Agreement

The Paris Climate Change Agreement introduced a science-based target to limit global temperature rise to under 2°C by 2050. For the first time, cities, investors and businesses were formally recognised for the role they play in reducing greenhouse gas emissions in addition to national efforts. Along with many cities, the City of Melbourne signed the Paris Pledge for Climate Action,⁶ which states:

"[W]e the undersigned, affirm our strong commitment to a safe and stable climate in which temperature rise is limited to under 2 degrees Celsius.

We pledge our support to ensuring that the level of ambition set by the agreement is met or exceeded.

We will do this by taking concrete steps now, and without waiting for the entry into force of the agreement in 2020, both individually and cooperatively, to reduce greenhouse gas emissions to a safe level and build resilience against those changes already occurring."

The actions described in this *Emissions Reduction Plan* demonstrate our commitment to the Paris Pledge for Climate Action.

Science-based targets

The science-based target for the City of Melbourne's operations is based on our share of the emissions that need to be reduced to avoid a 1.5°C to 2°C rise in average global temperature by 2050.

It was calculated by using the allocation of global emissions to the various sectors of the Australian economy to calculate the proportion of emissions that government operations need to reduce. A science-based target was then developed to compare with our effort to reduce emissions over the next five years.⁷

For the City of Melbourne's operations, we need to reduce our emissions by 1.5 per cent each year or around 5,738 tonnes of carbon dioxide equivalent to avoid the 2°C rise in global average temperature. To do our share to avoid the 1.5°C rise in global average temperature by 2050 we need to reduce our emissions by approximately

4.5 per cent each year which is 17,524 tonnes of carbon dioxide equivalent based on our 2011-12 baseline year for the National Carbon Offset Standard. It is anticipated that these calculations will need to be adjusted in response to the projections of climate scientists, particularly in relation to the target needed to avoid a 1.5°C rise in average global temperature.

Figure 2 illustrates how the City of Melbourne will exceed the science-based emission reduction targets, maintaining carbon neutrality between 2016-2021. It also illustrates that the City of Melbourne has achieved its earlier target of a 10 per cent reduction in emissions by 2018 compared to the 2010-11 baseline.⁸

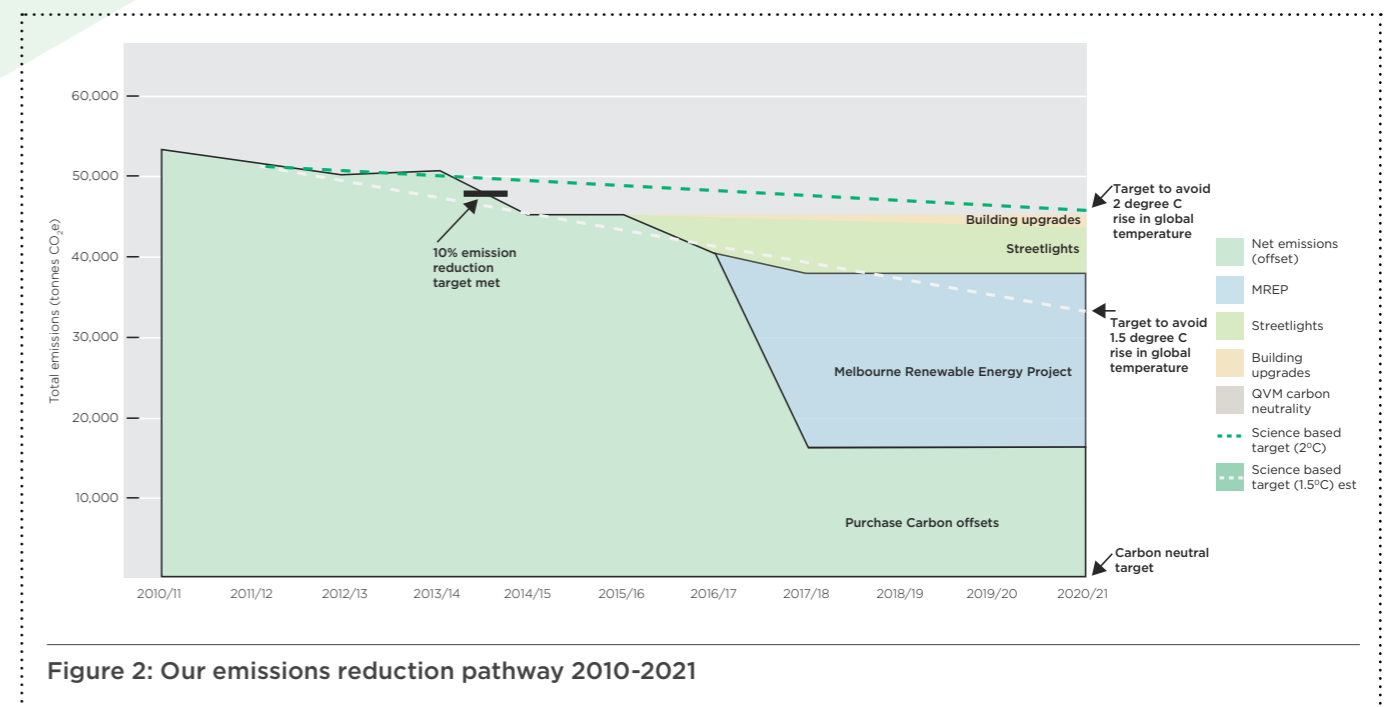


Figure 2: Our emissions reduction pathway 2010-2021

6. The full text of the Paris Pledge for Climate Action is at: parispledgeforaction.org/read/
 7. Further information on the method to allocate emissions is at: sciencebasedtargets.org/methods/
 8. The reporting systems for emissions from our supply chain and subsidiaries also improved over this period.

1. DEVELOP A LOW CARBON CULTURE

Emissions reduction pathway

As represented in Figure 2: Our emissions reduction pathway 2010-2021, our main actions to reduce operational emissions include a program of capital works to upgrade energy efficiency and renewable energy in our buildings, and the upgrade of street lights to high efficiency LED technology. The Australian Government's Clean Energy Finance Corporation (CEFC) is financing these programs.

In addition to these major work programs, emissions from transport fuel will be addressed through the supply chain and vehicle fleets, and the number of carbon neutral goods and services increased. Emissions will be further reduced through the Queen Victoria Market renewal program, which integrates carbon neutral design.

We will also purchase electricity from a new supply of renewable energy by delivering the Melbourne Renewable Energy Project. We will then offset any residual emissions, to ensure that the City of Melbourne maintains carbon neutrality for its operations.

The City of Melbourne is reducing greenhouse gas emissions and ensuring our buildings and operations are carbon neutral, because our community expresses strong support for actions that address climate change.⁹

Every day, thousands of people attend or participate in public events, sports and entertainment in the municipality. Community members use our libraries, childcare and healthcare centres and many other community buildings, and enjoy Melbourne's beautiful parks and gardens. These activities, and those of shoppers, tourists, workers and commuters all generate greenhouse gas emissions through the energy, and transport fuel used to operate, clean and maintain facilities and manage waste.

As caretakers of public assets, we need to consider the needs of present and future generations, and at the same time respect the diversity and cultural heritage of our community. We need to ensure that we integrate reconciliation and social inclusion into our actions, as well as sensitivity to heritage and the needs of the community when upgrading our facilities.

The City of Melbourne actively promotes low carbon living to residents in the municipality as part of its *Zero Net Emissions by 2020 Strategy*. By engaging visitors to our community facilities in the actions needed to reduce emissions, we can enhance our efforts to reduce emissions and deliver on community expectations.

The City of Melbourne has more than 1,400 employees, and a low carbon culture will also support the implementation of the plan over the next five years. We conduct sustainability basics training as part of staff induction, and behaviour change programs are run throughout the year to save energy in our buildings.

In order to successfully implement the *Emissions Reduction Plan* we need to regularly monitor and report on our progress to the public, councillors and the executive leadership team. The Australian Government Carbon Neutral program also requires us to report progress annually.

Actions over the next five years:

1. Integrate Aboriginal knowledge, cultural diversity and social inclusion in the delivery of the *Emissions Reduction Plan*.
2. Promote the City of Melbourne's carbon neutrality and options for patrons at our facilities to contribute to emission reductions through sustainable choices for transport, purchases and avoiding waste.
3. Conduct staff training and behaviour change programs to ensure facilities and equipment are operated efficiently.
4. Establish internal monitoring and reporting for the implementation of the plan.
5. Report progress in implementing the plan to the public and to councillors annually.

9. The need for the City of Melbourne to continue to address climate change through the *Zero Net Emissions by 2020 Strategy* by reducing greenhouse gas emissions was a prominent theme in the 2016 Future Melbourne community consultation.

2. CELEBRATE MELBOURNE WITHOUT THE EMISSIONS

Melbourne's liveability, thriving culture and environmental sustainability are a source of community pride. Since 2012 the historic Melbourne Town Hall, City Baths, Queen Victoria Market and all of the community facilities and services provided by the City of Melbourne have been carbon neutral. Even the Christmas light decorations and the electric barbeques in our parks are carbon neutral. In less than five years we have saved or offset more than 200,000 tonnes of carbon dioxide equivalent already - which is worth celebrating.

Now we are working to reduce the emissions from our events and celebrations too. Melbourne is well known for its annual festivals such as Moomba, Melbourne Music Week, Melbourne Spring Fashion Week and New Year's Eve. Together, these events attract thousands of patrons and visitors from interstate and overseas. Each year, more than a thousand community and business events such as weddings, charity runs, product launches and cultural festivals are hosted in our buildings, streets, parks and gardens. The City of Melbourne has also been a major sponsor of the Sustainable Living Festival held in February each year. We will continue to calculate the emissions generated by events, and work with our event partners and suppliers to reduce emissions as much as possible so that gradually our events become carbon neutral.

Actions over the next five years:

1. Continue to offset the emissions generated by Christmas lights and projections.
2. Calculate the emissions from premier events such as Melbourne Spring Fashion Week and New Year's Eve.
3. Develop a carbon neutral ticketing option for patrons attending Melbourne Music Week and Melbourne Spring Fashion Week.
4. Identify sponsorship or crowd funding to offset emissions from free public events such as Moomba and New Year's Eve and promote it through event publicity.
5. Develop practical information for premier event partners and community event planners on how to reduce and offset emissions from venues, catering, transport and waste.
6. Promote walking, cycling and public transport to event patrons.
7. Work with suppliers and event partners to reduce packaging and food waste and increase the number of carbon neutral products and services.

3. ZERO CARBON FOR OUR BUILDINGS

Melbourne's most recognised landmarks are also the some of the largest users of energy. The good news is that each year, lighting, heating and cooling technology is becoming more efficient and in many cases renewable energy can be installed to reduce the emissions generated by these buildings. We have already installed solar panels on many of the rooftops of buildings we own, and are now investigating more difficult sites.

There are more than 40 community buildings in the City of Melbourne's portfolio including arts centres, libraries, child care and health care centres, sports pavilions and recreation centres with swimming pools. In addition, there are many smaller buildings such as public toilet blocks, information centres, newspaper stands and street furniture such as electric barbeques and parking meters. The variety of these community assets presents a challenge in applying a systematic approach to reduce their emissions.

We are committed to ensure we make the right decisions about community assets, with the right information, by establishing the right data and processes as outlined in our *Asset Management Strategy 2015-25*. This strategy incorporates the measurement and monitoring of the greenhouse gas emissions generated by buildings into the evaluation of their condition, function and capacity to meet service needs. It also promotes an evidence-based approach to managing resources. The *Emissions Reduction Plan* supports these commitments by closing the loop between emissions data, information about opportunities to reduce emissions, best practice zero carbon buildings, and the capital works program. This will ensure that each stage of the asset decision cycle contributes toward meeting our emissions reduction objectives.

Energy savings and emissions reductions in buildings can be delivered in three ways:

1. **Right decisions:** Install energy efficient equipment and renewable energy technology in existing buildings and invest in new green buildings that exceed best practice.
2. **Right information:** Develop the asset management plans, designs and specifications for each building in our portfolio to reduce emissions through the capital works program.
3. **Right data and processes:** Improve the energy intelligence of our buildings so that we know when the equipment inside our buildings is not operating efficiently, and which buildings need to reduce emissions further.

The integration of these three elements is needed to ensure best practice energy efficiency and renewable energy technology is delivered across the life cycle of assets.

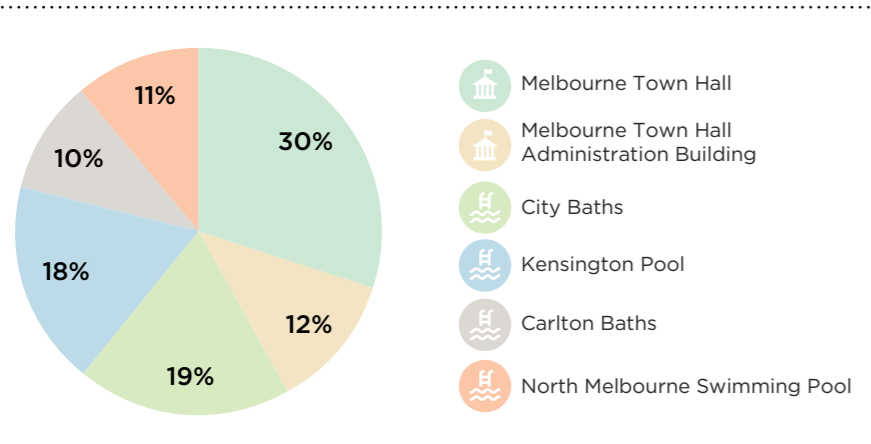


Figure 3: Emissions from City of Melbourne's large buildings

Right information: Develop asset management plans, designs and specifications for each building.

In the past, our capital works program has upgraded building equipment, facades and other components as needed and gradually improved the energy performance of buildings by selecting more efficient equipment. This has allowed for a lot of trial and error when it comes to installing new technology. However the opportunity to improve the energy performance of a building by taking a holistic approach to its function and design has been missing. This has been exacerbated by applying a method of like-for-like replacement, which means installing more efficient versions of existing equipment when it is at the end of its service-life. This gradual approach is too slow when compared to best practice zero carbon buildings.

We will develop best practice asset management plans, designs and specifications that take a holistic view of building performance. This will ensure that decisions about the allocation of funds to capital works projects are based on the right information to reduce emissions from our buildings as much as possible.

Right data and processes: Improve the energy intelligence of our buildings

In recent years, the City of Melbourne has upgraded many buildings with high-efficiency technology for lighting, heating, cooling and ventilation. However, the performance of these high-technology assets is often lower than expected. Research suggests that even in green buildings designed for energy efficiency, savings of more than 15 per cent in energy consumption can be realised by providing facility managers with regular feedback on energy performance through real time monitoring and reporting of energy demand.¹⁰ In order to transparently manage our community assets and improve their energy performance, we will monitor the performance of our building assets and continue to report the associated greenhouse emissions to the community.

Actions over the next five years:

1. Deliver emissions reductions from building assets by making the right decisions, with the right information and the right data and processes related to their energy performance.
2. Develop a green information technology plan to guide actions to reduce emissions through the optimisation of current technology, procurement of new technology and future planning for the data centre and technology services.

Information technology can be used to improve the energy performance of assets, and it performs an essential function for the organisation. However it also generates emissions from data centres and related systems infrastructure. This energy use is expected to grow over coming decades as data monitoring, response and communications increase in their applications. We estimate that around 30 per cent of the energy used by Council House 1 was required by the data centre situated in that building until recently. To improve efficiency, four of the existing data hosting systems were consolidated into one, which has reduced energy demand while maintaining service levels.

A green information technology plan will be developed to guide further work including the optimisation of existing technology, the procurement of new technology, and the sub-metering needed to monitor the performance of this technology. It will also guide the future design needed to reduce emissions from the data centre while maintaining temperature control and continuity of service.

Right decisions: Install energy efficient equipment, renewable energy, and invest in new green buildings

Twenty-nine per cent of our greenhouse gas emissions come from energy use in the City of Melbourne's buildings. Six buildings, including Melbourne Town Hall and the adjacent Town Hall Administration building were identified as the highest priorities to reduce emissions. We will reduce the energy demand of these high priority buildings by upgrading heating, cooling, ventilation and lighting equipment and installing renewable energy.

We also have a growing portfolio of new green buildings including Council House 2, and Library at The Dock. We are committed to delivering best practice environmentally sustainable design for new building projects and major re-developments.

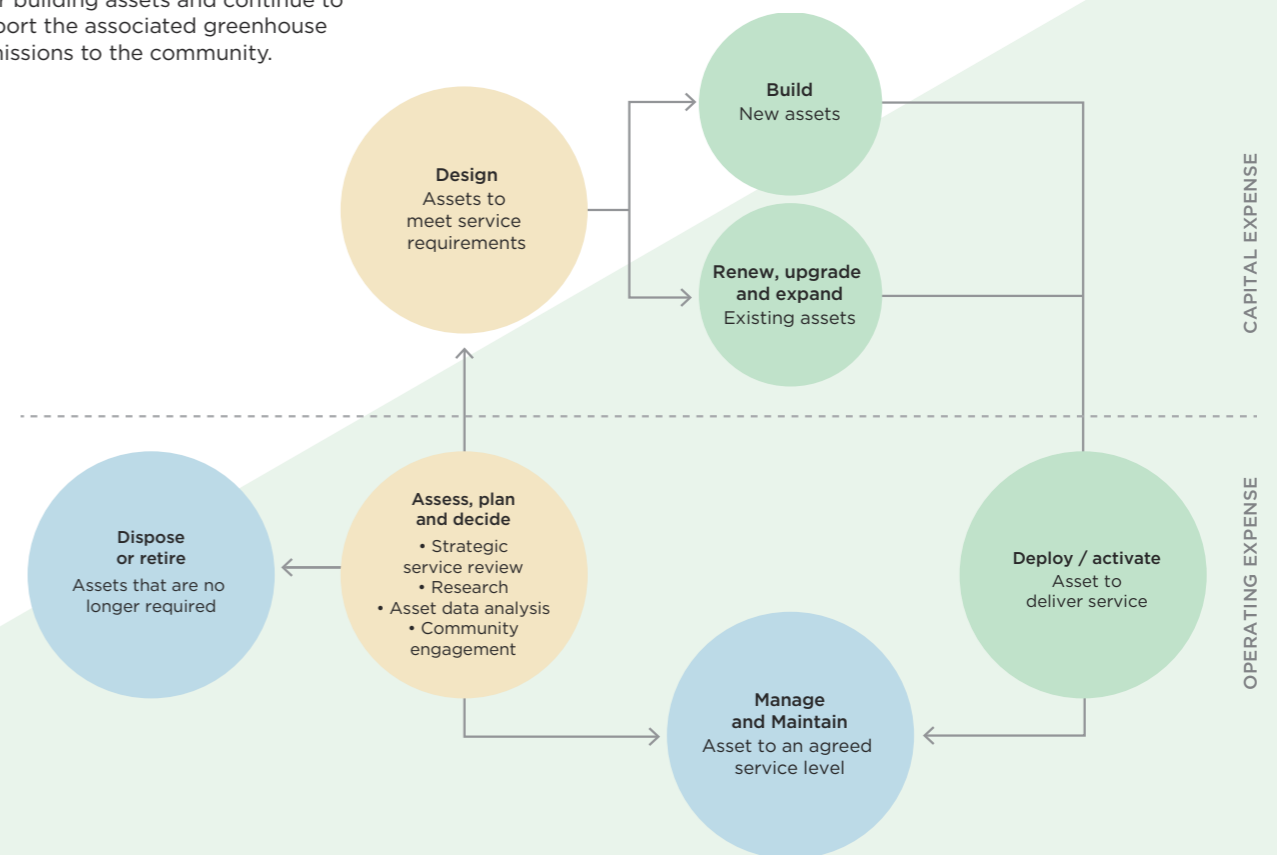


Figure 4: The asset decision cycle

10. Climate Works.(2016) Low Carbon, High Performance - How buildings can make a major contribution to Australia's emissions and productivity goals. Prepared for the Australian Sustainable Built Environment Council.

4. QUEEN VICTORIA MARKET RENEWAL

Melbourne is well known for its diverse and vibrant food culture and the fresh produce available at the Queen Victoria Market. It is the largest open-air market in the southern hemisphere and has served the community continuously since 1878.

It also contributed 1,928 tonnes of carbon dioxide equivalent in 2014-15, which is four per cent of our organisation's greenhouse gas emissions. The majority of these emissions are generated by electricity used for lighting and refrigeration, however emissions from transport, gas and water use also make a small contribution. A large array of 1,328 solar panels covering one third of the market rooftop was installed in 2003, and now requires updating. An energy performance contract has also been completed which included an energy audit and installation of energy efficient lighting. These actions reduced the energy intensity of the market, however the introduction of a night market has increased its operating hours, which has decreased the overall emissions saved.

The master plan for the \$250 million renewal of the market over the next four years includes design objectives to deliver a zero carbon development. This will maximise energy efficiency and embed renewable energy and investment in off-site renewable energy. While the rooftops of the market sheds and open spaces provide an opportunity to capture solar energy, they also add to the climate change vulnerability of the site due to solar gain and heat stress. The master plan includes climate resilience in the design objectives to cool the precinct and enhance biodiversity with green infrastructure, stormwater harvesting and water sensitive design.

Action is needed to reduce the emissions generated by the redevelopment of the market in both the design and the construction process, particularly the increasing electricity demand of the new design and the embodied energy of building materials and waste. We also need to install further renewable energy infrastructure to supply the increased electricity needed for lighting and refrigeration for traders. A zero waste objective is included in the master plan for the design, construction and the operational phases of the renewal. This will address emissions from embodied energy and reduce emissions from waste.

Actions over the next five years:

1. Continue to calculate, report and offset emissions from the Queen Victoria Market.
2. Ensure the new Queen Victoria Market design includes investment in adequate renewable energy infrastructure to supply the electricity needs of traders and shoppers and integrate zero carbon design objectives into the redevelopment tender process.
3. Specify high energy efficiency standards for lighting, refrigeration, heating and cooling equipment.
4. Integrate green infrastructure into the design to decrease demand for air conditioning by increasing shading, pre-cooling air intake, and cooling the precinct.
5. Reduce emissions from waste and the embodied energy of construction materials by integrating the zero waste design objectives into the redevelopment plans and tender process.

5. CARBON NEUTRAL GOODS AND SERVICES

Greenhouse gas emissions associated with goods and services we purchased were 5,676 tonnes of carbon dioxide equivalent or 13 per cent of our total emissions in 2014-15. The majority of these emissions are produced by outsourced services rather than the supply of products.

Each year we request suppliers to calculate their emissions from energy use, transport fuel, waste and any other activities generating a large amount of emissions. These are included in our emissions inventory as scope 3 emissions (indirect emissions) and reported according to the National Carbon Offset Standard. The activities of our supply chain are therefore included in the scope of this plan.

In 2016 we conducted a materiality assessment of our 26 supply categories to better understand the environmental and social impacts of our purchasing practices. As part of this assessment, we have identified priorities for reducing emissions across the supply chain. A number of suppliers have already committed to deliver carbon neutral services to the City of Melbourne as part of their contract.

To increase the number of major contracts with carbon neutral services, we need to consider the impact of emissions across the decision-making life cycle of purchasing and procurement. This includes the development, category management plans, tender documentation, key performance indicators and contract management and reporting.

Actions over the next five years:

1. Continue to measure and report emissions from major categories of supply and require contractors to report any large sources of emissions from sub-contractors.
2. Train contract managers in key concepts relating to carbon neutrality to enable them to evaluate, negotiate and manage carbon neutral services.
3. Organise supply chain workshops to encourage businesses to reduce emissions and develop carbon neutral products and services.
4. Work with other local governments and similar organisations to amplify market demand for carbon neutral goods and services.
5. Communicate organisational expectations for carbon neutral goods and services in the procurement policy, tenders and related documents.

6. ZERO CARBON TRANSPORT

Transport fuels contribute five per cent of our organisation's total emissions. A further 13 per cent of emissions are contributed by Citywide¹, and the majority of these emissions are also generated by transport fuels.

Our staff regularly travel by walking, cycling and using public transport and electric bicycles to avoid emissions from the use of vehicles. The emissions from any work-related air travel are offset. The staff members responsible for enforcing local laws - our on-street compliance team - have pioneered the use of bicycle transport in their roles.

Our corporate vehicle fleet comprises 80 cars including nine fully electric vehicles and two plug-in hybrid electric vehicles. We maintain carbon neutrality for our vehicle fleet in several ways: offsetting electricity emissions and transport fuel, charging electric vehicles in car parks owned by the City of Melbourne, and by increasing the weighting given to fuel efficiency in the evaluation of new vehicle models for inclusion in the fleet.

We are also exploring using other new zero emission technology models such as hydrogen fuel cell vehicles. These vehicles operate similarly to petrol fuel vehicles but without the greenhouse emissions. Hydrogen is not a fossil fuel because it is generated by applying electricity to water molecules. When the electricity used for this process is sourced from renewable energy,

the hydrogen generated does not contribute carbon dioxide emissions. Therefore both electric vehicles and hydrogen fuel cell vehicles can be zero emissions technology.

In recent years, new vehicle models with zero emission technology have not been available in the Australian market and this has made them difficult to purchase or lease. However as they become available we will gradually increase the number of zero emission vehicles over the next five years and ensure there are adequate vehicle charging stations in car parks owned by the City of Melbourne.

By far the largest proportion of vehicle emissions comes from the trucks that collect waste and the use of lawn mowers and other vehicles to maintain parks and gardens. Vehicle towing and street cleaning services also contribute significant vehicle emissions. These services are not directly delivered by our organisation, but through contracted suppliers and Citywide, which is a subsidiary company of the City of Melbourne. We will gradually increase the adoption of low emission and zero emission vehicles through the management of these supply contracts.

Actions over the next five years:

1. Promote walking, cycling and public transport options to staff for commuting and business travel.
2. Ensure vehicle leasing and purchase arrangements support efforts to increase vehicles that use zero carbon technology.
3. Design car park charging facilities for the projected increase in electric vehicles.
4. Continue to survey, monitor and report the use of transport fuel and require transparent reporting of transport-related emissions from suppliers and contractors.
5. Work with our wholly owned subsidiary Citywide to reduce emissions from transport fuels.

7. REDUCING EMISSIONS FROM WASTE

The waste generated by the City of Melbourne's operations includes waste from our offices and public facilities including community buildings, parks and gardens. Residential waste collection is included in the scope of the *Emissions Reduction Plan* because it is under the City of Melbourne's operational control through supply contracts, however the residential waste itself is the responsibility of householders and therefore not included in our operations. The collection of waste by trucks is a large contributor to our transport emissions.

The City of Melbourne's Waste and Resource Recovery Plan addresses the emissions generated by waste across the municipality and includes waste avoidance campaigns, recycling programs and the diversion of organic waste from landfill. We do not own or operate any landfills, however the waste collected from our facilities is taken to recycling stations and landfills outside the municipality. The indirect emissions associated with recycling and landfills for the waste collected at our facilities is included in our operational emissions inventory.

Actions over the next five years:

1. Continue to promote waste avoidance, diversion from landfill and recycling through staff and community engagement programs.
2. Ensure waste collection, office cleaning and parks and gardens maintenance contracts support emission reductions from waste.
3. Continue to collect and report data on waste from community and office facilities.
4. Ensure the updated Waste and Resource Recovery Plan addresses greenhouse gas emissions by promoting waste avoidance, diversion from landfill and recycling.

TECHNICAL NOTES

Baseline year

The baseline year for the *Emissions Reduction Plan* is 2011-12. In 2012 the organisation first achieved Carbon Neutral certification according to the Australian Government National Carbon Offset Standard and Carbon Neutral Program Guidelines.

The baseline year for the *Zero Net Emissions by 2020 Strategy* is 2010-11. The City of Melbourne purchased accredited carbon offsets for emissions generated in 2010-11 however it was not until 2012 that the organisation was certified carbon neutral.

The calculation of the emission reductions needed to achieve the 10 per cent reduction in emissions by 2018 were compared to the 2010-11 baseline to make it consistent with the municipality-wide targets in the *Zero Net Emissions by 2020 Strategy Update 2014*.

Scope

All emissions reported annually under the National Carbon Offset Standard are included in the scope of the *Emissions Reduction Plan*. The organisational boundary for the emissions inventory is illustrated in the figure below.

The emissions boundary for reporting under the National Carbon Offset Standard for the purpose of maintaining carbon neutral certification is different to that required under the National Greenhouse Emissions Reporting Scheme (NGERS). For NGERS reporting, all of Citywide's emissions are included within the City of Melbourne's organisational emissions boundary, and less emphasis is placed on emissions generated by supply chain activity (scope 3 emissions). This reflects the different objectives and needs of mandatory (NGERS) and voluntary (NCOS) reporting schemes.

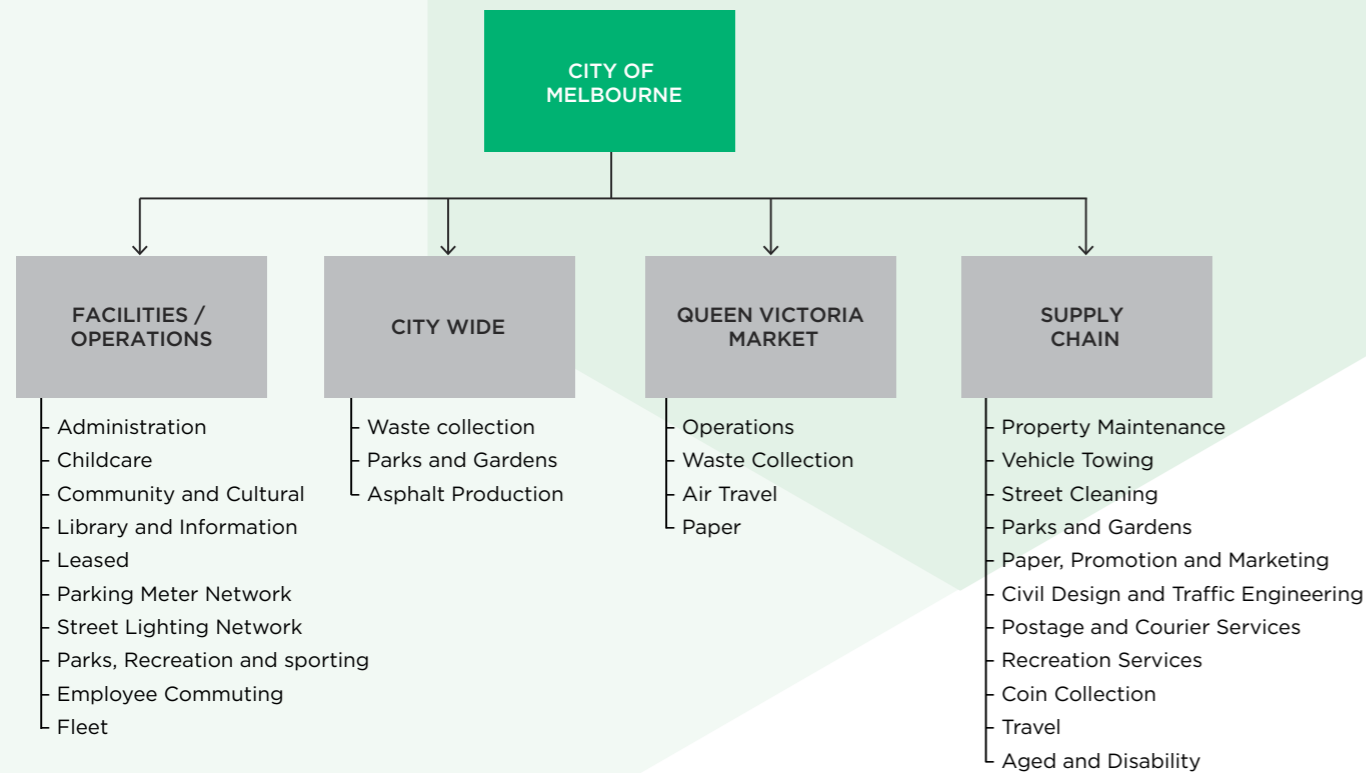


Figure 5: Organisational boundary for City of Melbourne's carbon inventory

IMPLEMENTATION PLAN

The following table identifies the implementation process and timeframe for delivery for each of the actions identified in the *Emissions Reduction Plan for our Operations to 2021*.

The implementation of the *Emissions Reduction Plan* will be subject to future annual budget and service planning priorities. The City of Melbourne work areas are identified in the following table as is the delivery mechanism and timeframe.

Delivery mechanisms:

- Business as usual - influencing existing programs, projects and works to incorporate the delivery of the *Emissions Reduction Plan* actions
- Future planning -subject to separate approval, budget or business case, to be determined through future annual planning and budgets
- Clean Energy Finance Corporation (CEFC) loan funding - part of a separately budgeted capital works or renewal projects financed by the CEFC loan







Priority area 1: Develop a low carbon culture

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 1.1: Integrate Aboriginal knowledge, cultural diversity and social inclusion in the delivery of the <i>Emissions Reduction Plan</i> .				2016	2017	2018	2019
1.1.1	Investigate options to integrate Aboriginal knowledge into the Low Carbon Future work program. For example, knowledge sharing with Aboriginal organisations about the potential for careers and community projects in low carbon industries, and information sharing with staff in Urban Sustainability about Caring for Country.	Aboriginal Melbourne, Urban Sustainability	Business as usual	▨			
1.1.2	Develop project proposals to support the integration of Aboriginal knowledge, cultural diversity and social inclusion across the strategies and actions identified in the <i>Emissions Reduction Plan</i> .	Aboriginal Melbourne, Urban Sustainability	Future planning		▨		
Strategy 1.2: Integrate Aboriginal knowledge, cultural diversity and social inclusion in the delivery of the <i>Emissions Reduction Plan</i> .				2016	2017	2018	2019
1.2.1	Organise and support events that promote sustainable living through sponsorship, information stalls, expert speakers and communications material that promotes actions patrons can take to reduce their emissions.	Urban Sustainability, Events Melbourne, Corporate Affairs and Strategic Marketing	Business as usual	▨			
			Future planning		▨		
1.2.2	Develop communication materials and online communication campaigns to promote the carbon neutrality of our organisation at community facilities, information centres and events.	Urban Sustainability, Events Melbourne, Corporate Affairs and Strategic Marketing	Business as usual	▨			
			Future planning		▨		









ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 1.3: Conduct staff training and behaviour change programs to ensure facilities and equipment are operated efficiently.							
1.3.1	Introduce staff to the energy saving features of their work place at induction sessions for new staff, and promote actions to save energy through internal staff engagement.	Urban Sustainability, People and Culture, Corporate Affairs and Strategic Marketing	Business as usual				
Strategy 1.4: Establish internal monitoring and reporting for the implementation of the Plan.							
1.4.1	Establish an executive level Steering Committee to meet quarterly to guide implementation of the plan. The committee should also monitor implementation of the CEFC loan.	Executive Leadership Team, Urban Sustainability	Business as usual				
1.4.2	Progress on each action will be reported through Organisational Plan reporting.	Executive Leadership Team, Urban Sustainability, branches with responsibility for implementation	Business as usual				
Strategy 1.5 Report progress in implementing the plan to the public and to councillors annually.							
1.5.1	Brief councillors annually and publicly release a progress report on the emission reduction plan each year as part of the carbon neutral disclosure requirements of the Australian Government Carbon Neutral Program guidelines.	Urban Sustainability, Corporate Affairs and Strategic Marketing	Business as usual				

Priority area 2: Celebrate Melbourne without the emissions

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
2.0	The Events and Urban Sustainability shared work plan will be reviewed in the first year to refine the actions described below.	Events Melbourne, Urban Sustainability	Business as usual				
Strategy 2.1: Continue to offset the emissions generated by Christmas lights and projections.							
2.1.1	Collect data to measure the energy used by Christmas lights and projections and purchase an equivalent amount of offsets to make them carbon neutral. Investigate ways to communicate the carbon neutrality of the Christmas lights to the community.	Urban Sustainability, Corporate Affairs and Strategic Marketing, Events Melbourne, Property Services	Business as usual				
Strategy 2.2: Calculate the emissions from premier events such as Melbourne Spring Fashion Week and New Year's Eve.							
2.2.1	Commission emissions inventories for the events to determine the total emissions and emissions per patron. This work can build on the inventories already developed for Moomba and Melbourne Music Week.	Urban Sustainability, Events Melbourne, Smart City Office, Property Services	Future planning				
Strategy 2.3: Develop a carbon neutral ticketing option for patrons attending Melbourne Music Week and Melbourne Spring Fashion Week.							
2.3.1	Investigate the requirements of formal carbon neutral certification for events and develop the carbon management and ticketing process needed to offer patrons the option to purchase carbon neutral tickets.	Events Melbourne, Urban Sustainability, Corporate Affairs and Strategic Marketing	Future planning				
2.3.2	Work with event partners to develop a streamlined emissions inventory, extend carbon neutral ticketing to non-City of Melbourne events, and investigate transferability to other City of Melbourne events, such as Melbourne Knowledge Week.	Events Melbourne, Urban Sustainability, Smart City Office	Future planning				
Strategy 2.4: Identify sponsorship or crowd funding to offset emissions from free public events such as Moomba and New Year's Eve and promote it through event publicity.							
2.4.1	Identify potential sponsors with strategic alignment to carbon neutral events and conduct due diligence. Investigate potential for matched funding with a crowd-funding campaign.	Events Melbourne, Urban Sustainability	Business as usual				
2.4.2	Develop crowd funding and associated communication campaign to promote participation and ownership of carbon neutrality by the community.	Events Melbourne, Urban Sustainability, Corporate Affairs and Strategic Marketing	Business as usual				

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 2.5: Develop practical information for premier event partners and community event planners on how to reduce and offset emissions from venues, catering, transport and waste.							
2.5.1	When the events guide is next reviewed, include information on how venues and event planners can reduce emissions and purchase carbon offsets.	Events Melbourne, Urban Sustainability, Corporate Affairs and Strategic Marketing	Business as usual				
2.5.2	Develop website content and/or fact sheets tailored to small, medium and large events on how to reduce emissions from venues, catering, transport and waste, how to purchase offsets and the process of carbon neutral certification (for large events).	Events Melbourne, Urban Sustainability, Corporate Affairs and Strategic Marketing	Future planning				
Strategy 2.6: Promote walking, cycling and public transport to event patrons.							
2.6.1	Work with event partners to promote walking, and cycling to event patrons in line with the Bicycle Plan 2016-2020.	Events Melbourne, Urban Sustainability, Corporate Affairs and Strategic Marketing, Health and Wellbeing, Urban Strategy.	Business as usual				
2.6.2	Work with event partners and public transport providers to promote public transport to event patrons and investigate combined event/public transport tickets or carbon neutral transport services.	Events Melbourne, Urban Sustainability, CASM, Urban Strategy, Melbourne Metro	Business as usual				
Strategy 2.7: Work with suppliers and event partners to reduce packaging and food waste and increase the number of carbon neutral products and services.							
2.7.1	Share information with suppliers and event partners to reduce commercial organics going to landfill (such as that developed for commercial organics in the Waste and Resource Recovery Plan 2015-18 Action 7.3), and consider further actions for tender documentation.	Events Melbourne, Urban Sustainability, Engineering, Finance and Procurement	Business as usual				
2.7.2	Provide information to suppliers and event partners about carbon neutral goods and services such as an information session with case studies and representatives of the Australian Government Carbon Neutral Program and fact sheets/website contents.	Events Melbourne, Urban Sustainability, Finance and Procurement	Business as usual				

Priority area 3: Zero carbon for our buildings

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 3.1: Deliver emissions reductions from building assets by making the right decisions, with the right information and the right data and processes related to their energy performance.							
3.1.1	<i>Right decisions (existing buildings):</i> Implement the high priority projects identified to install energy efficient equipment and renewable energy technology in existing buildings.	Capital Works, Property Services, Urban Sustainability	CEFC loan funding				
3.1.2	<i>Right decisions (existing buildings):</i> Develop detailed project plans and implement the low priority energy efficiency and renewable energy upgrade projects identified for stage 2 of the CEFC works plan.	Capital Works, Property Services, Urban Sustainability	Future planning				
3.1.3	<i>Right decisions (new buildings):</i> Integrate zero carbon objectives into the plans, specifications, and tender documents for the redevelopment of new green buildings including but not limited to Council House 1 and City Village.	City Design Studio, Capital Works, Property Services, Urban Sustainability.	Future planning				
3.1.4	<i>Right information:</i> Develop the asset management plans, designs and specifications for each building in our portfolio to reduce emissions through the capital works program.	Capital Works, Property Services	Business as usual				
3.1.5	<i>Right data and processes:</i> Improve the energy intelligence of our buildings so that we know when the equipment installed is not operating efficiently, and which buildings need to reduce emissions further.	Capital Works, Property Services	Business as usual Future planning				
Strategy 3.2: Develop a green information technology plan to guide actions to reduce emissions through the optimisation of current technology, procurement of new technology and Future planning for the data centre and technology services.							
3.2.1	Develop a green information technology plan to guide actions to reduce emissions through the optimisation of current technology, procurement of new technology and Future planning for the data centre and technology services.	Technology Services, Urban Sustainability, Capital Works, Smart City Office	Business as usual				
3.2.2	Incorporate green information technology recommendations into the category management plan and tender documents for information technology services.	Finance and Procurement, Technology services, Urban Sustainability, Smart City Office	Business as usual				

Priority area 4: Queen Victoria Market (QVM) renewal

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 4.1: Continue to calculate, report and offset emissions from the Queen Victoria Market.				2016	2017	2018	2019
4.1.1	Data from QVM utility bills and transport fuels are collected throughout the year, imported into the CCAP database and reported by the organisation as part of the NCOS emissions inventory. Problems arising in the data are resolved as needed.	Urban Sustainability	Business as usual				
Strategy 4.2: Ensure the new Queen Victoria Market design includes investment in adequate renewable energy infrastructure to supply the electricity needs of traders and shoppers and integrates zero carbon design objectives into the redevelopment tender process.							
4.2.1	Investigate design options for zero carbon buildings, expansion of the Melbourne Renewable Energy Project model, and carbon offsets to QVM.	QVM Precinct Renewal, Urban Sustainability	Business as usual				
Strategy 4.3: Specify high energy efficiency standards for lighting, refrigeration, heating and cooling equipment.							
4.3.1	Research best practice energy efficiency standards and prepare tender specifications to ensure all equipment installed at QVM delivers best practice efficiency.	QVM Precinct Renewal, Urban Sustainability	Business as usual				
Strategy 4.4: Integrate green infrastructure into the design to decrease demand for air conditioning by increasing shading, pre-cooling air intake, and cooling the precinct.							
4.4.1	Share research on green infrastructure with the QVM design team and identify opportunities to collaborate and integrate green infrastructure into QVM.	QVM Precinct Renewal, Urban Sustainability	Business as usual				
Strategy 4.5: Reduce emissions from waste and the embodied energy of construction materials by integrating the zero waste design objectives into the renewal plans and tender process.							
4.5.1	Ensure the QVM renewal includes measures to reduce the waste of materials in the design and construction phases.	QVM Precinct Renewal, Urban Sustainability, Engineering	Business as usual				
4.5.2	Ensure plans and tender documents include the consideration of the environmental sustainability of materials used including the embodied energy of materials and options to select materials with high recycled content, low emissions in their production, long term durability, and/or end of use repurposing or recyclability.	QVM Precinct Renewal, Urban Sustainability, Engineering	Business as usual				

Priority area 5: Carbon neutral goods and services

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 5.1: Continue to measure and report emissions from major categories of supply and require contractors to report any large sources of emissions from sub-contractors.				2016	2017	2018	2019
5.1.1	Develop a measurement and evaluation framework to monitor progress in increasing the number of carbon neutral goods and services. Evaluate the success of actions taken in year 3 and year 5 and adjust actions to improve delivery.	Urban Sustainability, Finance and Procurement, Engineering.	Business as usual				
5.1.2	Collect emissions data from major suppliers and contractors and report it as part of our annual emissions inventory. In cases where emissions from subcontractors are considered material, reporting by suppliers and contractors on behalf of sub-contractors should be included in contract requirements.	Urban Sustainability, Finance and Procurement, Engineering.	Business as usual				
5.1.3	Include requirements in new contracts for suppliers and contractors to provide emissions data in a standard format for reporting purposes.	Finance and Procurement, Engineering, Urban Sustainability	Business as usual				
Strategy 5.2: Train category managers and contract managers in key concepts relating to carbon neutrality to enable them to evaluate, negotiate and manage carbon neutral services.							
5.2.1	Hold an internal workshop for contract managers and category managers to introduce them to key concepts in carbon accounting and carbon neutral products and services.	Finance and Procurement, Engineering, Urban Sustainability	Business as usual				
5.2.2	Provide advice to category managers and contract managers to support actions to reduce emissions from major categories of supply to enable category managers and contract managers to evaluate, negotiate and manage carbon neutral services.	Urban Sustainability, Finance and Procurement, Engineering	Business as usual				
Strategy 5.3: Organise supply chain workshops to encourage businesses to reduce emissions and develop carbon neutral products and services.							
5.3.1	Scope the potential for holding workshops with suppliers to build market capacity to provide carbon neutral goods and services for our operations and major events.	Urban Sustainability, Events Melbourne, Finance and Procurement, Engineering	Business as usual				
5.3.2	Organise workshops with major suppliers and contractors to promote peer-to-peer learning between suppliers, raise awareness of best practice carbon management, and promote competition to deliver carbon neutral goods and services.	Urban Sustainability, Finance and Procurement, Engineering	Future planning				

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 5.4: Work with other local governments and similar organisations to amplify market demand for carbon neutral goods and services.							
5.4.1	Work with other local governments and service sector organisations to develop a project to increase the market demand for carbon neutral goods and services. This may include developing a proposal to the Carbon Neutral Cities Alliance (CNCA) Innovation Fund, or identifying other opportunities for collaboration to stimulate market interest in carbon neutral goods and services.	Urban Sustainability, Finance and Procurement, Engineering	Future planning				
Strategy 5.5: Communicate organisational expectations for carbon neutral goods and services in the procurement policy, tenders and related documents.							
5.5.1	Develop standard text and information such as case studies for suppliers to introduce the concepts relevant to carbon neutral goods and services tailored to different sizes and categories of supply.	Urban Sustainability, Finance and Procurement, Engineering, Capital Works, Property Services, Events Melbourne, Corporate Affairs and Strategic Marketing	Business as usual				
5.5.2	Refer to the City of Melbourne's commitment to carbon neutrality and provide links to information about carbon neutral goods and services in documents relating to tenders.	Urban Sustainability, Finance and Procurement, Engineering, Capital Works, Property Services	Business as usual				
5.5.3	Introduce appropriate tender response documents and evaluation criteria to gradually encourage an increase in carbon neutral goods and services. For example extension of the minimum efficiency requirements currently used for fleet vehicle selection, or options to encourage submission of premium options or value added proposals that include carbon neutral goods and services compared to standard proposals	Urban Sustainability, Finance and Procurement, Engineering, Capital Works, Property Services	Business as usual				

Priority area 6: Zero carbon transport

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 6.1: Promote walking, cycling and public transport options to staff for commuting and business travel.							
6.1.1	Promote the benefits of walking and cycling to new staff at induction programs and familiarise them with end of trip facilities at their workplace. Use internal communications to promote active and public transport for business travel.	Urban Strategy, Urban Sustainability, Health and Wellbeing, On-street Compliance Services	Business as usual				
6.1.2	Maintain end of trip facilities for cyclists and ensure plans for new workplaces such as CH1 and City Village.	Capital Works, Property Services, Urban Strategy	Business as usual				
6.1.3	Investigate opportunities to improve end of trip bicycle facilities in line with the <i>Bicycle Plan 2016-2020</i> . For example at community facilities such as libraries and recreation centres.	Urban Strategy, Capital Works, Property Services	Future planning				
Strategy 6.2: Ensure vehicle leasing and purchase arrangements support efforts to increase vehicles that use zero carbon technology.							
6.2.1	Continue to apply fuel efficiency criteria to the purchase and lease of new vehicles and increase the number of vehicles with zero carbon technology such as electric and hydrogen powered vehicles.	Engineering, Finance and Procurement, People and Culture	Business as usual				
6.2.2	Develop a case study to share with other local governments, major contractors and suppliers to influence the awareness of zero carbon technology in vehicle fleets.	Engineering, Finance and Procurement, Urban Sustainability	Business as usual				
Strategy 6.3: Design car park charging facilities for the projected increase in electric vehicles.							
6.3.1	Ensure the plans for the development of CH1 and City Village include consideration of charging facilities for electric vehicles and other emerging low emission technology.	Engineering, Capital Works, Property Services	Future planning				

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 6.4: Continue to survey, monitor and report the use of transport fuel and require transparent reporting of transport-related emissions from suppliers and contractors.							
6.4.1	Provide data on transport fuel for annual emissions reporting and contribute to a monitoring and evaluation plan for the transport related emissions.	Engineering, Urban Sustainability	Business as usual				
6.4.2	Communicate the results of the hydrogen fuel trial at QVM and investigate its wider application to vehicle fleets.	Engineering, Urban Sustainability	Business as usual				
6.4.3	Investigate options to reduce emissions from vehicle fleets to achieve international best practice and identify barriers to implementation - with the participation of major transport based contractors and suppliers.	Engineering, Urban Sustainability, Urban Strategy, Smart City Office	Future planning				
Strategy 6.5: Work with our wholly owned subsidiary Citywide to reduce emissions from transport fuels.							
6.5.1	Work with Citywide to improve their reporting methods for transport fuels from their sub-contractors. Ensure future contracts include specific measures to require accurate reporting of transport fuels.	Engineering, Urban Sustainability, Finance and Procurement	Business as usual				

Priority area 7: Reducing emissions from waste

ACTION NUMBER	ACTION	WORK AREA	DELIVERY MECHANISM	TIMEFRAME FOR DELIVERY			
				2016	2017	2018	2019
Strategy 7.1: Continue to promote waste avoidance, diversion from landfill and recycling through staff and community behaviour change programs.							
7.1.1	Promote waste avoidance and recycling to staff through induction programs and internal staff communications.	Urban Sustainability, People and Culture, Corporate Affairs and Strategic Marketing, Events Melbourne, Engineering	Business as usual				
7.1.2	Promote waste avoidance and recycling to patrons at events by holding information stalls, and working with event partners, venues and waste management contractors to improve signage.	Events Melbourne, Engineering, Urban Sustainability, Finance and Procurement	Future planning				
7.1.3	Promote waste avoidance and recycling to patrons at community facilities through clear signage, and investigate other options to improve waste avoidance and reduction.	Property services, Engineering	Future planning				
Strategy 7.2: Ensure waste collection, office cleaning and parks and gardens maintenance contracts support emission reductions from waste.							
7.2.1	Promote waste avoidance and recycling to patrons at community facilities through signage, facilities management and cleaning contracts.	Property services, Engineering	Business as usual				
7.2.2	Investigate options to reduce emissions through waste collection, office cleaning, parks and gardens maintenance and tree maintenance contracts as they come up for renewal.	Engineering, Urban Sustainability, Finance and Procurement	Business as usual				
Strategy 7.3: Continue to collect and report data on waste from community and office facilities.							
7.3.1	Investigate improved methods for collecting data on waste avoidance, recycling, diversion of organic waste, and waste stream contamination and continue to report the emissions from waste as part of annual NCOS reporting.	Engineering, Urban Sustainability, Finance and Procurement	Business as usual				
Strategy 7.4: Ensure the updated Waste and Resource Recovery Plan addresses greenhouse gas emissions by promoting waste avoidance, diversion from landfill and recycling.							
7.4.1	Include specific measures to reduce the emissions associated with the management and collection of waste from our facilities and events in the development of the next <i>Waste and Resource Recovery Plan</i> .	Engineering, Urban Sustainability, Finance and Procurement	Business as usual				

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