

Report to the Future Melbourne Committee**Agenda item 6.4****Retrofit Melbourne Plan****19 September 2023****Presenter:** Evan Counsel, General Manager Strategy, Planning and Climate Change**Purpose and background**

1. The purpose of this report is to seek approval from the Future Melbourne Committee (FMC) to adopt the Retrofit Melbourne Plan ('the Plan', Attachment 3) which aims to accelerate the retrofit of existing commercial buildings to reduce municipal emissions.
2. Reducing emissions from commercial buildings is a key strategic priority of:
 - 2.1. The Climate Change Mitigation Strategy to 2050.
 - 2.2. Council Plan 2021–25 Major Initiative 30: The environmental performance of buildings; Major Initiative 28: To enhance Melbourne's position as a global leader on climate action; and Major Initiative 35: Implement the Climate and Biodiversity Emergency Action Plan.
3. Retrofitting buildings is crucial in achieving the Council's goal of net zero emissions for the municipality by 2040. Existing commercial buildings account for 60 per cent of all greenhouse gas emissions. Approximately 80 buildings per year need to be retrofitted to achieve climate targets – the current annual retrofit rate is approximately seven.
4. The Zero Carbon Buildings for Melbourne Discussion Paper (endorsed by FMC on 4 October 2022) was launched in October 2022 for public consultation. It outlined seven potential initiatives to accelerate retrofit delivery. Over 200 responses were received, and workshops were held with key stakeholders. The vast majority of respondents considered all of the proposed initiatives practical and effective. A number of additional initiatives were also proposed by stakeholders to support implementation, predominately focused around the provision of information and support. The Plan has been developed on this evidence basis.

Key issues

5. The Plan presents an ecosystem of interrelated initiatives that will enable and accelerate retrofits of commercial buildings, with particular focus on 'mid-tier' buildings – those buildings graded lower than Premium or A-Grade as defined by the Property Council of Australia.
6. The municipality has a greater share of mid-tier buildings than other Australian capital cities, with the City of Melbourne featuring a more diverse ownership profile. By comparison, the City of Sydney is dominated by more institutional property investors.
7. Retrofitting has been slow in the mid-tier sector due to barriers such as lack of awareness, difficulty in accessing capital and information, lack of networking among mid-tier owners and tenants, and lack of skills and expertise amongst industry professionals.
8. To address the barriers and encourage action, the Plan proposes 11 initiatives, set out under four work streams, to implement in partnership with industry and other levels of government. Attachment 2 sets out a summary of the work streams and ecosystem of initiatives proposed including advocacy, the provision of information and support, implementation mechanisms and regulation.
9. The Plan proposes further research and analysis to progress regulatory mechanisms such as an emissions cap and/or rates incentive. A further business case and impact assessment for both of these options will be undertaken by management which will inform a future recommendation to Council as to how a regulatory approach should be implemented.
10. Implementing the Plan will deliver a range of co-benefits including but not limited to: reducing the risk of high vacancy rates for smaller assets; jobs and skills creation; amenity improvement; and economic development in the municipality. It also presents opportunities to investigate options for adaptive reuse.

Recommendation from management

11. That the Future Melbourne Committee:
 - 11.1. Adopts the Retrofit Melbourne Plan (Attachment 3 of the report from management).
 - 11.2. Authorises the General Manager Strategy, Planning and Climate Change to make any further minor editorial changes to the Plan prior to its publication.

Attachments:

1. Supporting Attachment (Page 3 of 42)
2. Summary of work streams and initiatives (Page 5 of 42)
3. Retrofit Melbourne Plan (Page 7 of 42)

Supporting Attachment

Legal

1. Legal advice has and will continue to be provided in relation to the Plan and initiatives identified in it.

Finance

2. Council's funding commitment for the commencement of the delivery of the Plan is contained in the Council Budget 2023–24.
3. Council's Budget 2023–24 includes \$150,000 for the Plan and associated work.

Conflict of interest

4. No member of Council staff, or other person engaged under a contract, involved in advising on or preparing this report has declared a material or general conflict of interest in relation to the matter of the report.

Health and Safety

5. In developing this proposal, occupational healthy and safety issues have been considered, and there are no potential issues at this stage.

Stakeholder consultation

6. Extensive consultation has been undertaken in the development of the Plan:
 - 6.1. More than 70 stakeholders were consulted in the development of the Zero Carbon Buildings for Melbourne Discussion Paper, including property investors and owners, consultants, architects, contractors, academia, state and federal government.
 - 6.2. The public consultation process for the Zero Carbon Buildings for Melbourne Discussion Paper, facilitated via Participate Melbourne, received more than 120 survey responses and 30 written submissions from a range of stakeholders. Respondents included the Energy Efficiency Council, Property Council of Australia, Green Building Council of Australia, Master Builders Victoria and others representing over 2,100 individuals and organisations and over three million square metres of property.
 - 6.3. Feedback from the submissions was that there needs to be: clear communication, a clear pathway to zero carbon ready with achievable milestones, effective incentives, significant education and support, coordination between authorities on requirements, research and piloting to drive innovation, and continued collaboration with industry.
 - 6.4. Responses to the stakeholder survey showed broad support for the proposed definition of a zero carbon ready building and the seven initiatives proposed (see page 12 of the Plan for more information about how respondents scored the initiatives in terms of effectiveness and practicality).
 - 6.5. A workshop specifically aimed at mid-tier owners was held in March 2023 to seek further feedback. The feedback received at this session raised the need to implement a staged approach, to consider how to incentivise mid-tier owners across their retrofit trajectories and to consider separate implications for heritage buildings.
 - 6.6. During other workshops and thought leadership events facilitated in 2023, over 500 stakeholders have been involved in conversations, workshops and engagement with this project. These included CBRE, JLL, GPT, UDIA, PCA and several mid-tier groups such as Riverlee.

Relation to Council policy

7. Melbourne's Climate Change Mitigation Strategy to 2050, Council Plan 2021–25: Major Initiative 30: The environmental performance of buildings; Major Initiative 28: To enhance Melbourne's position as a global leader on climate action; and Major Initiative 35: Implement the Climate and Biodiversity Emergency Action Plan.
8. The Plan is also relevant to Major Initiative 29: Employment centre of a resilient zero-carbon economy. The Plan will be delivered in consultation and collaboration with the Melbourne Climate Network and the wider community involved in the zero-carbon jobs cluster.

Environmental sustainability

9. The aim of the Plan is to address Council's commitments to reducing emissions across the city, in particular the target to reach net zero emissions by 2040.

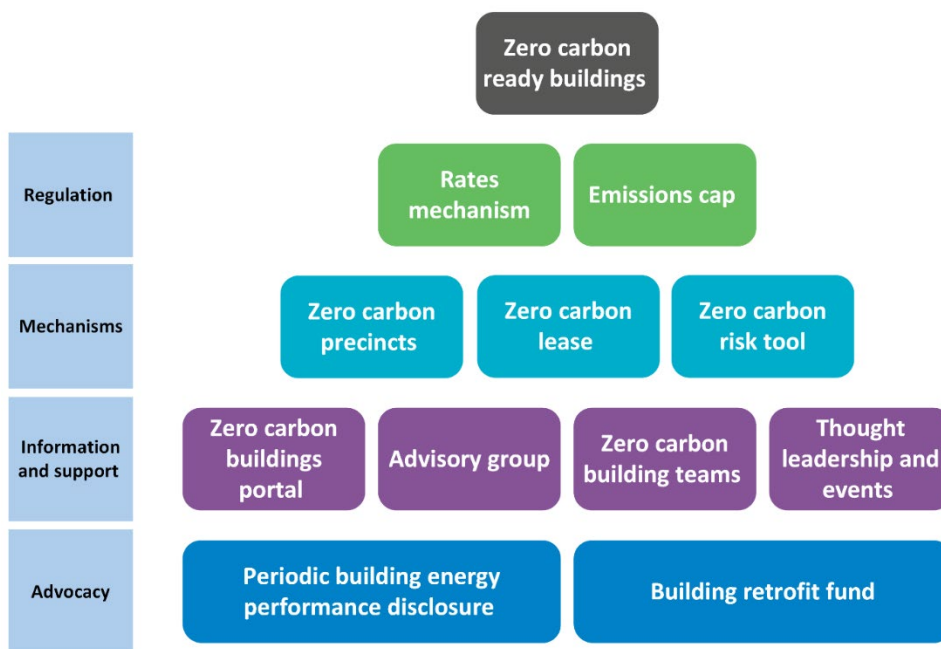
Summary of work streams and initiatives

Overview

Retrofit Melbourne sets out a plan to support zero carbon ready retrofits for the municipality's buildings, focusing on mid-tier buildings.

It sets out four work streams: advocacy, information and support, enabling mechanisms and regulation. Each of the eleven initiatives across these work streams addresses a specific barrier to zero carbon retrofits, and together, they create a more powerful system than the sum of its parts.

Figure 1: The Retrofit Melbourne initiative pyramid



Advocacy

We will continue to advocate to the Australian and Victorian Governments for regulation supporting zero carbon ready retrofits. Initially, this will focus on:

- Periodic building energy use disclosure
- Building retrofit fund

Information and support

The City of Melbourne will deliver information, support and knowledge-sharing systems for easy access to best practice guidance for zero carbon ready retrofits, to be the one-stop shop for industry knowledge.

Following endorsement of the Plan, our goal is to develop and implement the following initiatives over the next 12 months to two years.

- Zero carbon buildings portal
- Zero carbon buildings advisory group
- Zero carbon buildings teams
- Zero carbon buildings thought leadership and events

Enabling mechanisms

The City of Melbourne will deliver and support mechanisms and tools that incentivise retrofit activity and provide further support to create zero carbon ready buildings.

Following endorsement of the Plan, our goal is to develop and pilot the following initiatives:

- Zero carbon precincts
- Zero carbon leases
- Zero carbon risk tool

Regulation

The City of Melbourne will investigate options to incentivise emissions reductions and regulate the total allowable emissions from commercial buildings.

We will work with other levels of government to develop, test and enable the best mechanism. Our next steps are to develop business cases (including impact assessments) for rates incentives and an emissions cap and to continue discussions with the Victorian and Australian Governments.

Retrofit Melbourne

Framework to enable mid-tier commercial buildings to transition to be zero carbon ready

September 2023



Acknowledgement of Traditional Owners

City of Melbourne respectfully acknowledges the Traditional Owners of the land we govern, the Wurundjeri Woi-wurrung and Bunurong Boon Wurrung peoples of the Eastern Kulin and pays respect to their Elders past, present and emerging.

We acknowledge and honour the unbroken spiritual, cultural and political connection the Wurundjeri, Bunurong, Dja Dja Wurrung, Taungurung and Wadawurrung peoples of the Eastern Kulin have to this unique place for more than 2000 generations.

We are committed to our reconciliation journey, because at its heart, reconciliation is about strengthening relationships between Aboriginal and non-Aboriginal peoples, for the benefit of all Victorians.

Foreword (place holder)

Lord Mayor

Cr Doidge

DRAFT

Contents

Executive summary	5
Context	7
The challenge posed by Melbourne’s commercial building stock	7
Progress in reducing emissions from buildings	8
Retrofits and mid-tier buildings	8
Policy context	9
How this report was developed	12
Initiatives	13
Advocacy	14
1. Periodic disclosure	14
2. Better buildings fund	16
Information and support	17
3. Zero carbon buildings portal	17
4. Zero carbon buildings advisory group	19
5. Zero carbon buildings teams	21
6. Thought leadership and events	23
Enabling mechanisms	25
7. Zero carbon precincts	25
8. Zero carbon lease	27
9. Zero carbon risk tool	28
Regulation	30
10. Rates mechanism	30
11. Emissions cap	32
Comparison of the two regulatory approaches	33
Bibliography	35

Executive summary

Commercial buildings are responsible for nearly 60 per cent of emissions in the municipality. City of Melbourne has set a target for all existing buildings to be 'zero carbon ready' by 2040. It's a crucial part of our plan to reach net zero emissions by 2040; without it, we'll fall short.

We have led various initiatives to promote building retrofits over the last two decades, but the rate remains too low to meet our target. We need more than 80 buildings to be retrofitted each year. However, only seven buildings are currently retrofitted yearly.

This document sets out an implementation plan to rapidly increase the pace of zero carbon retrofits. We mainly focus on mid-tier buildings because they are the most common and face the most barriers to change. This plan is part of an increasing movement to promote zero carbon building retrofits elsewhere in Australia and the world.

Our initiatives

Over the last two years, we have developed and consulted on how to make this implementation plan work. We will undertake 11 initiatives, organised into four work streams: advocacy, information and support, enabling mechanisms and regulation. Each initiative addresses a specific barrier to zero carbon retrofits, and together, they create a more powerful system than the sum of its parts.

Advocacy

We will continue to advocate to the Australian and Victorian Governments for regulation supporting zero carbon ready retrofits. Initially, this will focus on:

1. Periodic building energy use disclosure
2. Building retrofit fund

Information and support

City of Melbourne will deliver information, support and knowledge-sharing systems for easy access to best practice guidance for zero carbon ready retrofits, to be the one-stop shop for industry knowledge. Our next step is to develop and implement these initiatives over the next 12 months to two years.

3. Zero carbon buildings portal
4. Zero carbon buildings advisory group
5. Zero carbon buildings teams
6. Zero carbon buildings thought leadership and events

Enabling mechanisms

We will deliver and support mechanisms and tools that make implementing zero carbon ready buildings easier. Our next step is to develop and pilot these initiatives.

7. Zero carbon precincts
8. Zero carbon leases
9. Zero carbon risk tool

Regulation

We will investigate options to incentivise emissions reductions and regulate the total allowable emissions from commercial buildings. We will work with other levels of government to develop, test and enable the best mechanism. Our next steps are to develop business cases (including impact assessments) and to continue discussions with the Victorian and Australian Governments.

10. Rates incentives or penalties
11. Setting an emissions cap

Thank you to everyone who helped to develop this implementation plan: the 70 experts who contributed to the Zero Carbon Buildings for Melbourne discussion paper, the organisations and individuals who provided feedback on it, and the 1000 or more people that engaged with us in workshops, events, masterclasses and discussions as we tested out how to make the most practical, effective plan to Retrofit Melbourne.

DRAFT

Context

Like cities all around the world, our municipality is going through a major transition. After COVID-19, the central city is experiencing a permanent shift to a more remote workforce, which has increased vacancy rates – especially in lower-grade commercial buildings.

This transition offers as many opportunities as it does challenges. Many of Melbourne’s commercial buildings are much loved and they have the potential to be repurposed and adapted for different uses. Every building in the municipality must be ready for a low-carbon future, whether it’s being built, retrofitted, adapted or otherwise redeveloped. As they achieve zero carbon outcomes, some buildings may transition from commercial to mixed-use, or help us respond to the affordable housing crisis.

This plan sets out how City of Melbourne will support and facilitate the investment required to make Melbourne’s commercial buildings zero carbon ready.

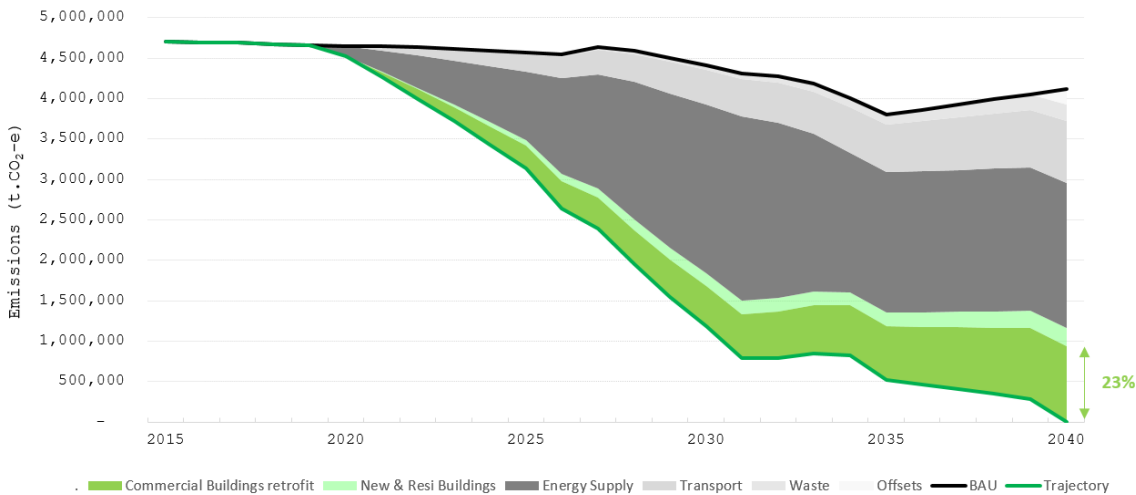
We must work with building owners to deliver this plan, but doing so presents a particular challenge in Melbourne because building ownership types and structures are more diverse compared to the rest of Australia (Sustainability Victoria, 2018). Generally, Melbourne’s mid-tier buildings are owned by smaller portfolios, family trusts, international investors and individuals. We have developed a suite of initiatives that incentivise different stakeholders, so we reach all buildings in the municipality.

The challenge posed by Melbourne’s commercial building stock

Commercial buildings are responsible for nearly 60 per cent of emissions in the municipality (City of Melbourne, 2022). We’re aiming for all existing buildings to be ‘zero carbon ready’ by 2040 so that their emissions fall as the electricity grid is decarbonised. But there are more than 1500 mid-tier commercial buildings. More than 80 buildings will need to be retrofitted each year to reach this target. Now, however, only seven buildings are retrofitted yearly. This document sets out an implementation plan to rapidly increase the pace of zero-carbon retrofits.

If we don’t act, we will fall short of net zero emissions in 2040 by 23 per cent, even with a fully decarbonised electricity system.

Figure 1: Analysis of emissions reductions over time as the grid is decarbonised

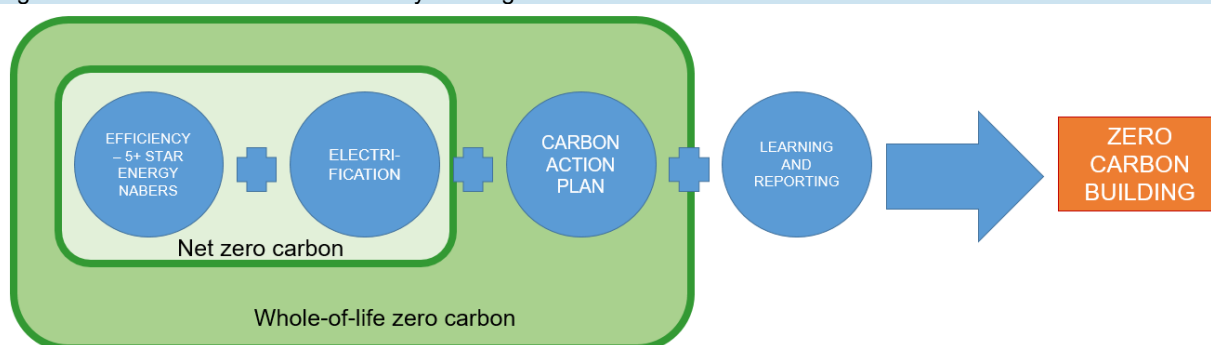


What is a 'zero carbon ready' building?

1. It has a high level of energy efficiency. City of Melbourne will set a 5-star NABERS whole-building energy rating as a minimum efficiency benchmark.
2. It uses no fossil fuels in its operation. It uses electric building services that can be powered by 100 per cent renewable electricity.
3. It has a carbon reduction action plan to transition the building to whole-of-life zero carbon (including embodied carbon) after 2040.
4. Its owners regularly report on its progress towards zero emissions, embedding in learning.

This definition is similar to that used by the World Green Building Council's Net Zero Carbon Buildings Commitment (2018) and the International Energy Agency (2021).

Figure 2: Elements of zero carbon ready buildings



Progress in reducing emissions from buildings

Over the past 20 years, City of Melbourne has led a range of initiatives to reduce emissions from buildings and improve their performance, including:

- strategic work to improve energy efficiency and support green buildings, which resulted in the development of the Green Star rating tool
- the construction of Council House 2, which featured world-leading sustainable building design and construction in 2006
- the 1200 Buildings retrofit program and funding mechanisms to support retrofit costs, including developing Environmental Upgrade Agreements.

Despite the work we've done previously, the current rate of progress will not be enough to meet our zero emissions target by 2040.

Retrofits and mid-tier buildings

Effective building retrofits can boost the economy. Modelling by consultants Point Advisory (2022) suggests they could add over \$2.7 billion to the Victorian economy by 2040, with 12,000 jobs and a yearly reduction in energy costs of over \$184 million.

EY (2015) outlines several barriers to owners retrofitting buildings, including:

- the absence of effective incentives
- ineffective government interventions – government schemes to support retrofits are not implemented for long enough or are duplicated at different levels of government and industry
- different priorities, pressures and capital constraints – building owners have many competing demands on their time and capital and do not prioritise energy efficiency upgrades

- split incentives – landlords are unable to access returns from investing in energy efficiency upgrades that benefit only tenants
- the absence of or difficulty accessing affordable and trustworthy technical support
- the land banking of office space and associated lack of investment in maintenance – some owners hold onto old buildings for capital growth without the capacity to maintain them properly or invest in upgrades.

Most commercial buildings in Melbourne fall into the ‘mid-tier’ category – smaller, older buildings with non-corporate owners (see box for further explanation).

Premium and A-grade buildings are more likely to be retrofitted:

- They are more likely to be owned by institutional property investors, with ready access to capital, industry capability and skills.
- Owners are held to account by corporate ESG reporting requirements.
- Tenants of these buildings seek out high environmental sustainability performance to satisfy their ESG reporting requirements.

Reducing emissions from mid-tier buildings is more difficult due to additional barriers:

- Mid-tier building owners do not usually share knowledge with each other.
- They are under-represented in industry bodies such as the Property Council of Australia.
- They are usually occupied by small tenants that do not demand better environmental performance, due to a lack of awareness or corporate policy.

What is a mid-tier building?

Mid-tier buildings are often defined as any building lower than Premium or A-Grade, as outlined in the Property Council of Australia’s Guide to Office Quality. Market research has shown mid-tier buildings share common characteristics (EY, 2015) that may present barriers to implementing emissions reduction retrofits:

- smaller footprints of 10,000 m² or less
- built before 2000, with older building services, including the original HVAC system and fluorescent tube lighting
- diverse ownership profiles, including private, family trusts, strata-title and owners living overseas
- higher vacancy rates when compared to Premium and A-grade assets
- small leased floorplates, with tenants that are small and medium-sized enterprises
- lower rents per square meter
- no NABERS rating because most do not trigger mandatory disclosure under the *Building Energy Efficiency Disclosure Act 2010*, as they have small floor plates and do not get sold often
- no dedicated property or facilities manager.

Policy context

Many jurisdictions worldwide, including local governments, have policies supporting energy efficiency and emissions reductions in buildings. City of Melbourne don’t have control over all the required policy and regulation, so we are advocating for change at all levels of government to support this work.

Victorian Government

The Victorian Government has committed to reducing emissions by 28 to 33 per cent by 2025, 45 to 50 per cent by 2030, and 75 to 80 per cent by 2035. Its Built Environment Climate Change Adaptation Action Plan includes investment in efficiency upgrades for low-income and vulnerable households and upskilling for professionals and the community. The Victorian Government has also updated its Victorian Energy Upgrades program under the *Victorian Energy Efficiency Target Amendment Act 2022*.

Australian Government

Australia has committed to achieving net zero emissions by 2050 and reducing greenhouse gas emissions by 43 per cent below 2005 levels by 2030 (Australian Office of Financial Management, 2022). In 2023, the Australian Government Budget committed over \$2.9 billion for energy performance upgrades and decarbonisation over the next four years.

For commercial buildings, Australian Government measures include:

- the Building Energy Efficiency Disclosure Act, with the associated Commercial Building Disclosure program requiring NABERS ratings to be disclosed when buildings are sold or when spaces over 1000 m² are leased
- the development of training on embodied carbon for all sectors of the building industry
- increased new building efficiency through the National Construction Code 2025.

International approaches

As in Australia, there are no examples around the world where governments have implemented a comprehensive framework of policies, knowledge support and advocacy required to tackle the barriers to zero carbon ready retrofits. Current international policies on building energy efficiency include the following broad categories:

- **Emissions caps** on maximum allowable emissions from commercial buildings, for example, New York Local Law 97, Tokyo Metropolitan Government's cap and trade scheme, City of Vancouver's Annual Greenhouse Gas Emissions and Energy Limits By-law, and similar legislation in Seattle, Boston and Washington DC
- **Resource provision** including guides, plans, fact sheets, case studies and education programs, such as the Zero Emission Building Exchange as part of the Metro Vancouver Zero Emission Innovation Centre
- **Partnerships** such as the Copenhagen network of building owners
- **Leading by example** by decarbonising government-owned buildings and piloting new technologies
- **Strategic collaboration and leadership**, such as acceleration collaboration and technology strategies developed by the Hong Kong Government to engage industry on retro-commissioning and energy efficiency.

City of Melbourne aims to bring together the best aspects of domestic and international policy. The following existing complementary programs could support our journey to zero carbon buildings.

Program	Explanation	Limitations	Benefits
Environmental Upgrade Agreements (EUAs) Finance	A fixed-rate loan for energy-efficient upgrades uses energy savings to pay for the loan to maintain a positive cash flow.	Slow uptake – there have only been 13 EUAs since 2011 in Melbourne. There are less demanding sources of cheap money available.	EUAs can support our initiatives, and their take-up could be improved if we can help to rationalise their administration.
On-bill finance	A loan for improving the energy efficiency of a building, repaid over time	This method requires ongoing collaboration with utilities. We need to	On-bill finance has the potential to support our initiatives, so we need to collaborate with potential

	through additional charges on utility bills.	evaluate why it has not reached its potential.	users to make it more effective.
Energy performance contracting (EPC)	The EPC vendor assesses the building, develops a strategy and installs the necessary equipment to improve energy efficiency at no charge to the client. In return, the EPC vendor receives a significant proportion of the savings made.	Low uptake rate – this program has not accelerated deep retrofits. Some issues arise with trust, implementation and process.	Energy performance contracting has the potential to support our initiatives, so we need to collaborate with potential users to make it more effective.
Equipment and service leasing (also known as Energy as a service)	Like leasing a printer and paying per page, this method involves hiring energy-saving equipment and paying for the levels of comfort provided.	Low uptake – it is a complex option because measures of comfort are often subjective.	Service leasing could enable long-term design, upgrades and better management. It can also support data accessibility and continual improvement.

Table 1: Existing complementary programs – limitations and benefits

How this report was developed

This report comprises work conducted or commissioned by City of Melbourne over the past two years in four distinct phases:

- **Phase 1** involved listening to over 70 Australian and international industry experts, academics and policymakers to propose policy initiatives and develop a discussion paper.
- **Phase 2** involved consulting with industry and the community on the Zero Carbon Buildings for Melbourne discussion paper. We received responses from over 150 individuals, organisations and industry groups (GBCA, PCA, C40, EEC, NABERS, MBV, JLL, ISPT, etc.).
- **Phase 3** involved key stakeholder workshops to develop the definition of zero carbon ready buildings and hear more from mid-tier building owners.
- **Phase 4** will arise from this Retrofit Melbourne plan. We will develop the detail of each initiative, achieve Council endorsement and implement the initiatives.

Refining our initiatives

As part of phase 2, we asked for feedback on the effectiveness and practicality of seven proposed initiatives. The initiatives were generally seen to be both effective and practical, with most support for incentivising periodic disclosure, zero carbon retrofit teams and emissions caps. During the workshops in phase 3, we discussed ways to adapt the seven initiatives better to address barriers to zero carbon ready retrofits.

Figure 3: Responses on the effectiveness and practicality of previously proposed initiatives



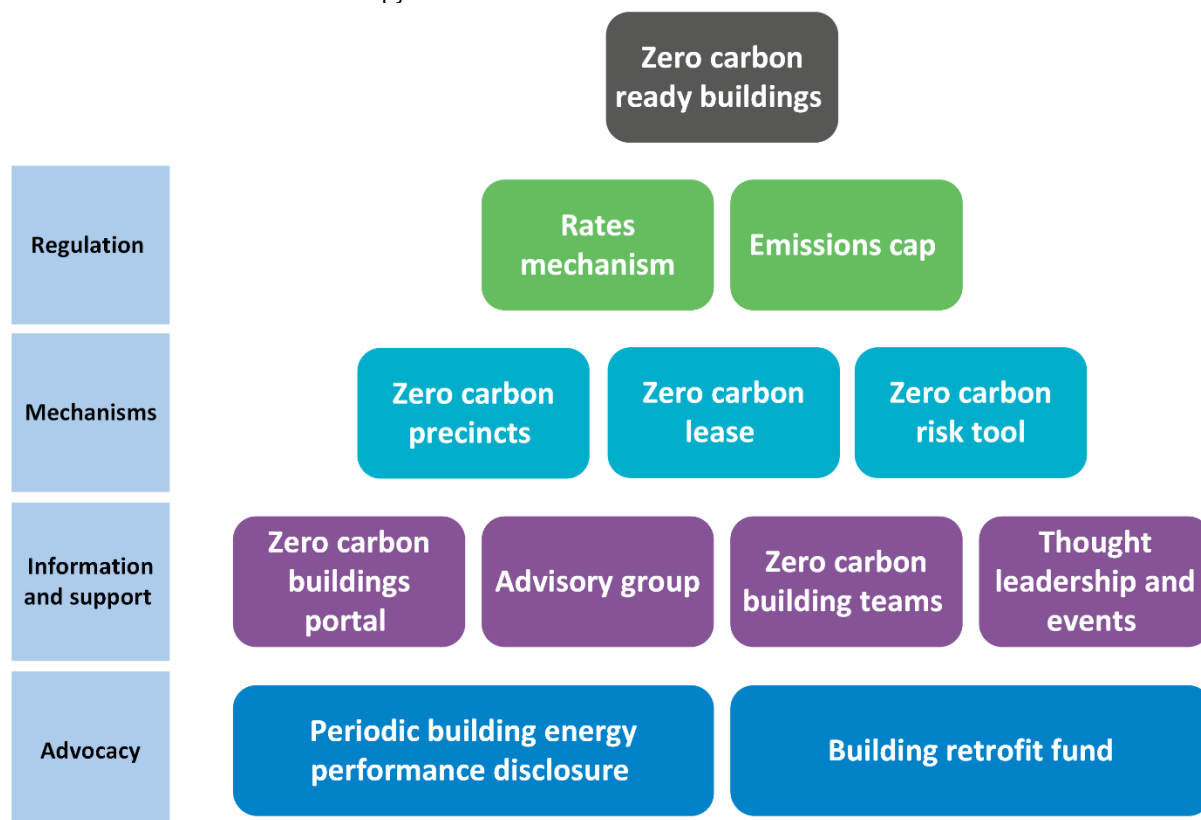
Source: Global Research

Initiatives

Retrofit Melbourne sets out our plan to support zero carbon ready retrofits for the municipality's buildings, focusing on mid-tier buildings. We will undertake 11 initiatives, organised into four work streams: advocacy, information and support, enabling mechanisms and regulation.

The initiatives work together. Those grouped under the advocacy stream – periodic disclosure and building retrofit fund – underpin the effectiveness of those that follow in information and support, and so on. For example, zero carbon building teams will not be successful without periodic disclosure requirements. As shown in the diagram below, the initiatives lower in the pyramid underpin the effectiveness of the initiatives above them.

Figure 4: The Retrofit Melbourne initiative pyramid



The following sections of this plan will outline the detail of each of these initiatives, including:

- barriers it addresses
- how it helps deliver zero carbon ready buildings
- what we heard from the consultation
- links with the other initiatives
- next steps for implementation.

Each initiative addresses a specific barrier to zero carbon retrofits; however, together, they create a more powerful system than the sum of its parts. The implementation timeline is based on the nature of the initiative and increasing stringency over time.

Advocacy

Continued advocacy will be crucial to the delivery of this framework and to achieving net zero by 2040. We have identified two immediate priorities below, but it is not envisaged that these will be the only advocacy required to accelerate retrofits on our journey to a net zero 2040.

For example, we envisage that additional advocacy may be required to facilitate the convening of zero carbon retrofits with future adaptive reuse models. The retrofit policy environment is dynamic and the City of Melbourne proposes to periodically review our advocacy priorities to ensure they are in line with what's happening in the market.

1. Periodic disclosure

City of Melbourne's role – facilitate, pilot and advocate
Delivery timeframe – continual advocacy

Since 2010, some building owners must provide energy efficiency information to buyers and tenants using the NABERS energy rating system as part of the sale or lease transaction. These national Commercial Building Disclosure regulations apply to sellers and lessors of commercial office spaces over 1000 m² in buildings that comprise more than 75 per cent office space.

This program is set to expand beyond commercial office buildings to include properties such as hotels, data centres and retail. It will also include periodic disclosure – every 12 to 24 months, owners of buildings over 100 m² will be required to report base building energy performance. This expansion was put on hold due to COVID-19, but it is a central part of the Australian Government's Trajectory for Low Energy Buildings (Commonwealth of Australia, 2018).

Barriers it addresses

Periodic disclosure responds to the following uncertainties:

- 'What is the benefit of investing?' – owners are often unaware that inaction risks their property value. Having data on building performance information available during the sale or lease will clarify this risk.
- 'None of my competitors are doing it, why should I?' – yearly data will reveal performance and enable comparison between buildings.
- 'What difference will it make?' – information will help us understand the scale and potential return of retrofits, enabling planning. Comparative data will give certainty to funders.
- 'How do we do it?' – periodic disclosure will create a large body of experience, case studies and data to demonstrate what is practical, overcoming our current low learning rate.

How will it help deliver zero carbon ready buildings?

Mandatory periodic disclosure of energy ratings will significantly accelerate the retrofit rate. It increases accountability and incentivises retrofitting to remain competitive in the market.

Voluntary use of NABERS ratings has not delivered retrofits at the rates needed to achieve net zero targets, even with incentives and support. The cost of rating assessors remains a hurdle for new starters. For example, our City Switch program has a discount for NABERS ratings but has not driven significant uptake from mid and low-tier building owners.

City of Melbourne does not have the regulatory power to introduce mandatory periodic disclosure but will advocate to the Australian Government to introduce it as soon as practicable.

What we heard from the consultation

In feedback on our Zero Carbon Buildings for Melbourne discussion paper, the 'incentivising periodic disclosure' concept received the most support. More than eight in 10 respondents said it would be 'effective' or 'very effective' in helping meet our zero emissions commitment for 2040. Nearly seven in ten respondents said these incentives would be practical (see Figure 3). Very few people – under 5 per

cent – responded that such measures were ‘not practical’ and ‘not effective’ (City of Melbourne, 2023). Based on this feedback, it is clear that we need to incentivise using NABERS and make it easy to use.

‘Periodic reporting of a building’s NABERS rating will assist owners and tenants in the buildings, as often tenants actively seek a higher NABERS rating because it is aligned with their company values. This, in turn, will incentivise owners of those lower-class assets to upgrade them and support high transparency levels of the classes of building in the market.’

Property Council of Australia

Case study – performance reporting around the world

Periodic performance measurement is occurring in many places around the world. Each city uses different metrics, aiming to incentivise energy use reduction. Cities include:

- New York City
- Seoul
- St Louis, Missouri
- Tokyo
- Vancouver
- Washington D.C.
- Boston

The European Union has introduced country-wide periodic building performance reporting under its Energy Performance of Buildings Directive.

[Links with other initiatives](#)

Mandatory periodic disclosure would provide benchmark measurements that could form the basis for a rates mechanism or emissions cap.

[Next steps](#)

City of Melbourne will continue advocating for mandatory periodic disclosure as a critical enabler for buildings to reach our zero-carbon target. We will work with other levels of government to facilitate piloting and gather data to support a nationwide rollout of these requirements.

2. Better buildings fund

City of Melbourne's role – advocate in partnership with the Council of Capital City Lord Mayors
Timeframe for delivery – continual advocacy

A better buildings fund would be a national funding pool to invest in retrofitting commercial buildings. It would include a training and skills package to build the industry's capacity in the relevant trades.

Barriers it addresses

A better building fund would enable the following:

- the participation of owners that lack the finance to deliver zero carbon ready buildings
- funding targeting specific building industry issues
- funding for the necessary building technologies
- funding for training and skills development.

How will it help deliver zero carbon ready buildings?

A lack of qualified and available consultants and tradespeople is stalling progress for owners who want to retrofit their buildings. Because retrofitting has failed to gain momentum in Melbourne, local professionals have had little incentive or opportunity to improve their expertise. To accelerate this transition, we need to ensure a skilled workforce capable of meeting increased demand.

What we heard from the consultation

Many industry stakeholders also advocate for the Australian Government to create this funding stream. For example, the Green Building Council of Australia and the Property Council of Australia's policy plan, Every Building Counts, recommends the Australian Government prioritise growing the workforce and investing in a program for skills, research and education as part of a nationwide zero carbon ready, resilient building strategy. The plan states that priority should be given to ensuring effective compliance with minimum standards through training and incentives and improved mechanisms for dispute resolution.

Next steps

Continue to advocate alongside the Council of Capital City Lord Mayors and investigate other advocacy partnerships, such as with the Green Building Council of Australia and the Property Council of Australia.

Information and support

3. Zero carbon buildings portal

City of Melbourne's role – deliver and manage
Timeframe for delivery – 12 to 18 months

The zero carbon buildings portal will be a website where anyone interested in retrofitting their buildings can learn how to start, guides, research, tools, case studies and relevant events. It will also enable them to chart their paths towards zero carbon readiness and ensure they comply with applicable legislation. City of Melbourne will manage and update the portal.

Barriers it addresses

The portal will help overcome the following common complaints:

- 'I don't have time to find the information' – it will be a quick resource for time-poor building owners and managers.
- 'I don't trust what I can find on Google' – it will meet a need for trusted information.
- 'We don't have the time or the people to do this' – it will support small organisations.
- 'I don't know what the first step is, so it's too hard' – it will meet a need for case studies, guides and information to support decision-making.
- 'Why should I do it if no one else is' – it will create a sense of momentum for building retrofits.

How will it help deliver zero carbon ready buildings?

A great deal of relevant information is already available (for example, from CitySwitch, NABERS, and the Green Building Council of Australia and on our website). Still, it is housed across multiple websites and documents. The portal will be a 'one-stop-shop' for information, including grants. In bringing together existing information, we will identify and fill any gaps.

What we heard from the consultation

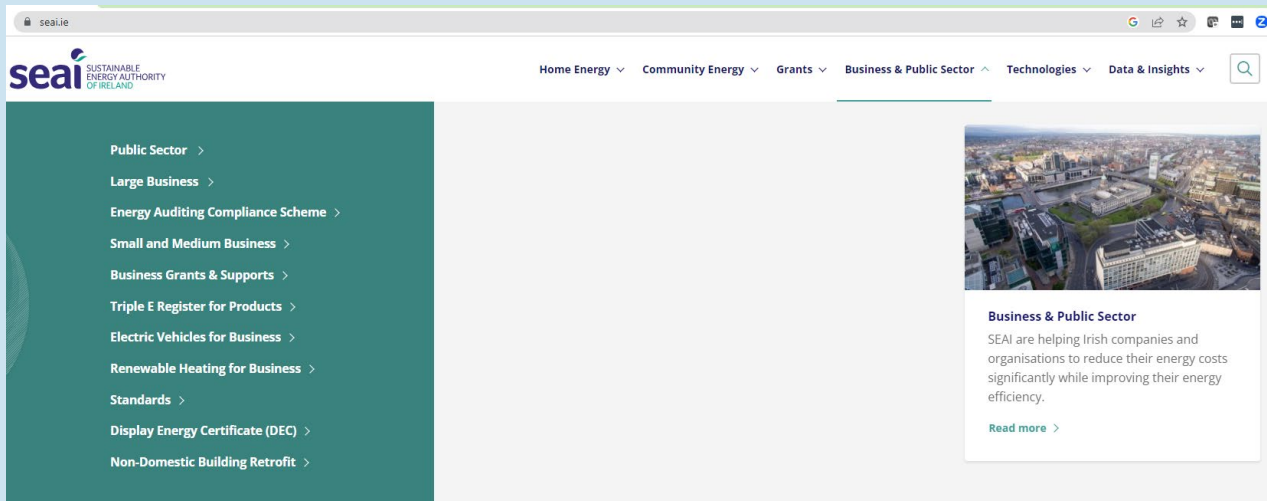
C40 is a global network of mayors of the world's leading cities who are united in action to confront the climate crisis. In its feedback, C40 highlighted the success of international portals that bring service providers together with building owners and allow building owners to share knowledge and good practice. It referred to New York City's Retrofit Accelerator, Copenhagen's Energy Leap and the Washington DC Building Innovation Hub.

Case study – Ireland’s one-stop-shop

The Sustainable Energy Authority of Ireland has a website that is successfully enabling building retrofits: www.seai.ie

It contains reports, guides, case studies and podcasts, and information about schemes, grants, pilot projects and legislation. In 2021 the portal led to the following:

- over 1.2 million website sessions
- more than 400 small and medium enterprises registering for an energy audit scheme
- more than 600 members joining their sustainable energy community network.



The Sustainable Energy Authority of Ireland website

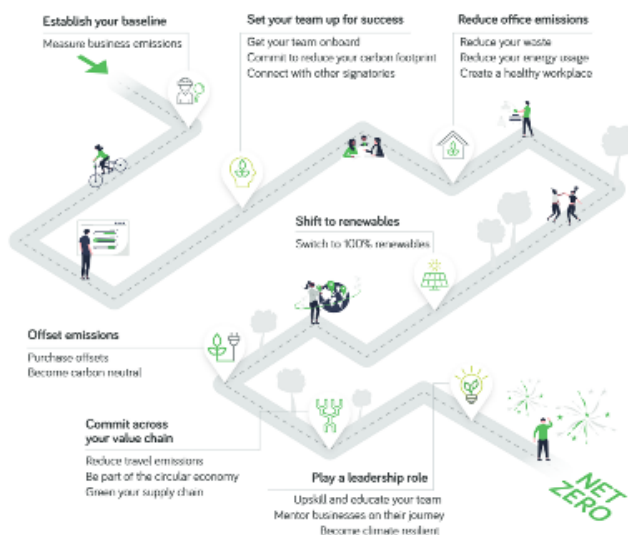
Links with other initiatives

The portal is a key to our delivery of retrofit information and support. It will equip stakeholders to access other drivers and mechanisms, such as zero carbon precincts, retrofit teams and zero carbon leases.

Next steps

We will develop and deliver the portal over the next 12 to 18 months. It will involve designing and building the website, creating a zero carbon ready building roadmap, collating existing materials and producing new content.

Your pathway to net zero



4. Zero carbon buildings advisory group

City of Melbourne's role – convene and manage
Timeframe for delivery – 12 months

We will bring together a group of expert stakeholders to support the delivery of retrofits across the municipality. It will comprise mid-tier building owners, tenants, property portfolio owners, property managers, peak bodies and academics. We will facilitate and manage ongoing regular meetings of the advisory group.

Barriers it addresses

The advisory group will help connect us with the reality for building and business owners to ensure we provide the information and support they need. Doing so will avoid the perception that the program is ineffective because we are out of touch with day-to-day business pressures.

How will it help deliver zero carbon ready buildings?

A key role of the advisory group's members will be to engage with their sphere of stakeholders. They will amplify this plan and its associated mechanisms. Without deep engagement, particularly in the mid-tier sector, we will not achieve our target of net zero emissions by 2040 goal.

The advisory group will also advocate and advise on specific projects relevant to the plan; for example, considering alternate pathways for buildings subject to heritage overlays. They will also collaborate with other expert groups – in this example, a heritage advisory group, which will be developed as part of our heritage strategy.

What we heard from the consultation

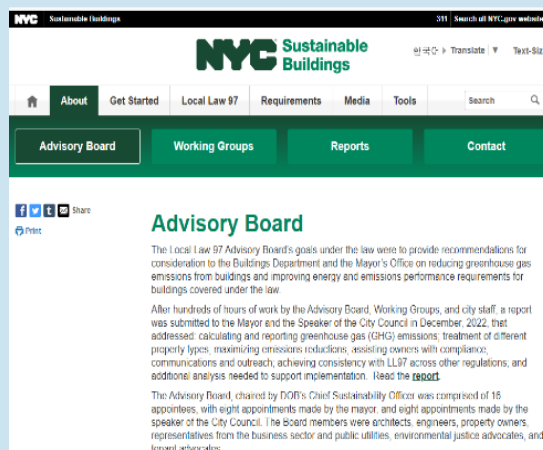
Global commercial real estate services company Jones Lang LaSalle told us that 'providing a network for landlords and connecting them to different service providers in the industry will help further facilitate and drive the change'.

Case study – working groups in New York

New York City has an ambitious program to address its existing building stock, including working with building owners on practical, challenging, yet realistic measures.

Su-Fern Tan, from commercial real estate services and investment company CBRE, told us about her experience there: 'I was an advisor for New York City's Local Law 97, for the working group on commercial building technology and pathways.

'Several working groups focused on their own sector so that the city's transition to net zero would balance practicality with urgency and aspiration. I believe this process was vital to implementing the law and setting New York City up for a more successful future. Also crucial was the engagement of utility and grid stakeholders.'



The NYC Sustainable Buildings website

Links with other initiatives

The advisory group will promote and support all initiatives by establishing a community of practice.

Next steps

We will further refine the group's remit and membership. Once it is convened, the group will agree on terms of reference to define its focus. We expect that this process will take place within 12 months.

DRAFT

5. Zero carbon buildings teams

City of Melbourne's role – provide information, develop a community of practice and run a pilot
Timeframe for delivery – 12 months to two years

Building owners will set up a team committed to transitioning to a zero carbon ready building over a defined period. The team will determine a project trajectory and map asset replacement plans, which allows owners to forecast costs and resources and ensures steady investment into the building. The group forges relationships with the building's stakeholders.

Barriers it addresses

Zero carbon buildings teams respond to the following challenges:

- short-termism – by overcoming knowledge gaps and enabling the development of zero carbon building trajectory plans
- lack of momentum – by building and sustaining momentum for improved building performance.
- transactional approach – by promoting a holistic perspective for the retrofit project
- lack of capital – by developing a long-term plan that demonstrates ongoing benefits
- slow learning rates – by creating long-term relationships that incentivise sharing innovations.

How will it help deliver zero carbon ready buildings?

Teams comprising experts and stakeholders will help building owners create decarbonisation plans over 10 to 15 years to 2040. As shown in the case study below, a long-term plan to upgrade a building can create a zero carbon outcome. This case study describes an engineering-driven solution; however teams that comprise multi-disciplinary advisors, such as building managers, tenants, engineers, designers and heritage experts, can realise a broader range of benefits.

Case study – building fitness program

Engineering firm Cundall has developed a building fitness program, which maps out a process of staged upgrades and improvements to a building. The aim is to reduce emissions, improve occupants' experience, comfort and wellbeing, add market value and ensure the structure remains viable and valuable. The program explains the simple steps in making any property future-fit, trimming waste energy use and improving operational performance. It also gives an overview of the tools, techniques and strategies involved, starting with understanding and benchmarking current performance and long-term asset management goals.

For their Workzone East building in Perth, Knight Frank and RF Corval engaged Cundall to produce a five-year sustainability roadmap. By the end, Workzone East was rated as Perth's first zero carbon commercial building. Its NABERS energy rating increased from 4.5 to 5.5 stars, and carbon dioxide emissions fell from 535,355 kilograms in 2017 to 349,960 kilograms in 2021. Following the Australian Government's Climate Active Carbon Neutral Standard for Buildings, they achieved carbon neutrality.



The Workzone East building at 1 Nash Street, Perth
Source: Knight Frank

What we heard from the consultation

During our consultation phase, this initiative was the highest rated overall (see Figure 3), with 78 per cent of respondents saying it would be effective or very effective in helping meet our commitment to zero emissions by 2040. Respondents also rated it highly for practicality, at 69 per cent. People told us it's worth investing in because it addresses many barriers that stall momentum. Feedback also suggested:

- developing a code of conduct for team participants
- creating a consultant and contractor panel to answer questions, which are then made publicly available on a website (this may be a role for the advisory group discussed above)
- using a facilitator to provide leadership and support during the creation of teams.

Links with other initiatives

The zero carbon buildings portal will equip these teams for success, as will the advisory group and thought leadership events. Periodic disclosure will enable teams to track and measure their success.

Next steps

Within 12 months, we will host roundtables with mid-tier building stakeholders to understand how these teams would work best for them. This initiative is not being used at scale elsewhere, so we expect to undertake some additional research and modelling. We will prepare to facilitate a pilot project within two years.

DRAFT

6. Thought leadership and events

City of Melbourne's role – convene

Timeframe for delivery – continue our current series

Events bring together the leaders in industry and government to present and discuss the emerging opportunities and issues of building retrofitting. We propose hosting quarterly events for the emerging community of practice.

Events will provide opportunities for networking and sharing case studies, best practices, questions, tools, guidelines and initiatives. It also connects City of Melbourne to the community and industry, giving us an ear on the ground for emerging issues.



An event at Melbourne Town Hall

Barriers they address

A series of thought leadership events will help us overcome the following:

- the lack of momentum
- the lack of information and knowledge
- the absence of a community of practice
- the low learning rate.

How will they help deliver zero carbon ready buildings?

The thought leadership series will develop capacity in the industry and establish a community of practice. It will create regular opportunities to share knowledge. Professionals working on zero carbon building retrofits can meet, exchange ideas and listen to speakers discuss critical aspects of the future of buildings in the city. The events will underpin the delivery of all our initiatives relating to information and support – providing training, case studies, tools and access to expertise.

What we heard from the consultation

The concept of a thought leadership series was raised during phase 2 of the consultation. The City of Melbourne has run a trial schedule of events to support the early stages of development of the concept of zero carbon buildings in Melbourne. The consultation also clearly stated that many stakeholders did not know how or where to start their retrofit trajectory, highlighting the need to create a range of events to support varied cohorts and stages.

Case study – starting our community of practice

City of Melbourne hosted the following thought leadership events from February to May 2023:

- zero carbon retrofits – delivering value-add in partnership with JLL Australia
- retrofitting zero carbon precincts, in collaboration with CBRE
- electrification masterclass for commercial buildings, in partnership with Cundall.

Each of these events was oversubscribed, showing the industry's strong interest in facilitating these knowledge-sharing opportunities.

Links with other initiatives

Our events will help people to share skills, knowledge and information. If we can successfully advocate with the Australian Government for the better buildings fund, we may be able to expand the event program. These sessions will also allow the industry to contribute to ongoing dialogue and showcase their achievements, contributing to momentum building.

Next steps

Following our successful trial, we will host an ongoing series of thought leadership events.

DRAFT

Enabling mechanisms

7. Zero carbon precincts

City of Melbourne's role – provide information, develop a model and community of practice, partner to pilot

Timeframe for delivery – pilot within two to three years

A zero carbon precinct is an exemplar block of zero carbon ready buildings. To deliver a precinct, we must collaborate with all the buildings to decarbonise, revitalise and activate the block. It could also include pilot projects for particular types of buildings, such as heritage-listed buildings.

Barriers it addresses

Precinct retrofits will help overcome the lack of a positive vision for what can be achieved. Owners can be inspired by greening, place making, sharing a local battery and seeing more people walking around. Economies of scale, precinct activation and peer support will incentivise smaller, older, resource-constrained buildings to act. Establishing a critical mass of action in one area will also help to overcome some building owners lack of access to expertise, capital, information and knowledge.

How will it help deliver zero carbon ready buildings?

When we focus resources on a block-by-block or precinct basis, we create a situation where we collaborate with buildings of all tiers in the precinct. It also provides an opportunity to revitalise particular areas in the municipality, by improving amenities and activating streetscapes.

What we heard from the consultation

Our discussion paper presented this concept of aggregation in terms of building typology, but the idea was not well supported. However, stakeholders did express support for geographical aggregation. Several major portfolio owners have volunteered to partner with City of Melbourne to pilot the concept:

'It makes sense to work on a precinct level ... if an area is at risk like Elizabeth Street is with a flood, then it makes sense for people working together to address the risk while activating their areas and upgrading their buildings.'

Wardle Studio

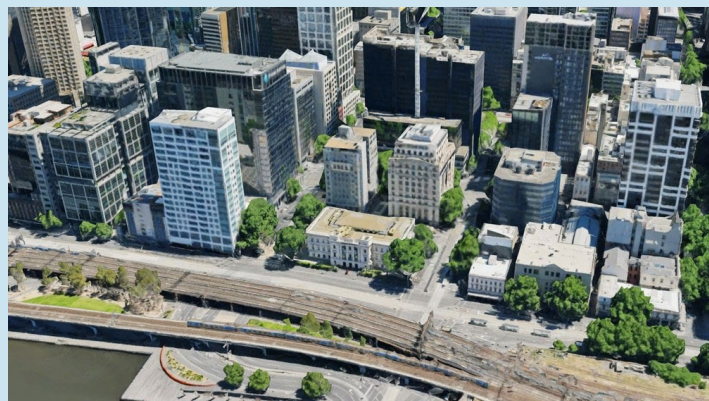
'This initiative could help reduce the duplication of assessments and retrofit strategies, reducing costs and providing building owners with a pathway for improved energy efficiency.'

Master Builders Victoria

Case study – a pilot precinct

We propose piloting this initiative in a precinct already actively collaborating – it provides a rich opportunity for building local capacity, resilience, adaptation and pride.

One example is the Turning Circle precinct, bounded by Collins, Queen and William Streets and the Yarra River. In 2019, the Immigration Museum, Turning Circle Collective and residents founded an action group named Neighbourhood Circle: neighbourhoodcircle.squarespace.com



The Turning Circle precinct

Links with other initiatives

Research for our discussion paper – and the feedback we received on it – showed that building owners need different entry points to begin working on zero carbon ready retrofits. Because it is a cross-cutting support initiative, a precinct approach could provide a way in for smaller, older, mid-tier and unrated buildings. It provides a relational and capacity-building approach to help with resilience, wellbeing, activation, economic development and many other precinct-level outcomes.

Next steps

Within 12-18 months, City of Melbourne will develop a precinct model, investigating mechanisms that will align various precinct activities.

We can learn from our recent development of the Sustainable and Climate Resilient Assets tool, which demonstrated all the climate risks that could affect an area of the city, and suggested design strategies. A similar mechanism could bring together initiatives in each precinct.

We will also explore potential sites and partnerships with asset owners with a view to delivering a pilot following the development of the model.

Climate Change Risk Reports

Use the location and asset specific climate change risk reports to understand the **climate change impacts** and **risk profile** of your project, as well as the **relevant design strategies** to address the risk.

Select an asset type from the tiles below to access the relevant climate change risk report page.



City of Melbourne's Sustainable and Climate Resilient Assets tool

Purpose:

Identifies early business case considerations relating to climate change hazards and risk.

- Incorporates climate change risk into the project site investigation.
- Identifies and links design interventions relevant to climate change risks.

Users:

Project managers, project sponsors, designers.

PMF Phase:



8. Zero carbon lease

City of Melbourne's role – commission draft clauses, convene a workshop and pilot
Timeframe for delivery – over the next 12 months

Zero carbon leases are a mechanism for tenants to request a zero carbon space. They also provide building owners and managers with a means to ensure tenants do what is needed to produce zero carbon outcomes for the whole building. Leases include clauses that set out the minimum requirements for a zero carbon lease.

Barriers it addresses

Zero carbon leases will align the interests of owners and tenants, which will help to overcome the following challenges:

- inability to manage and report on the carbon performance of whole buildings
- split incentives – owners spend capital while tenants make operational savings
- lack of a clear definition of net zero carbon for all parties
- lack of ways to measure and improve performance.

How will it help deliver zero carbon ready buildings?

A zero carbon lease provides a mechanism for tenants and owners to hold each other contractually accountable for building performance. It will require a minimum NABERS rating of 5 stars for the base building and tenancy. It will commit tenants and owners to a range of other activities aimed at transitioning the property, including emissions reduction, offsetting and reporting.

What we heard from the consultation

More than seven in 10 respondents said zero carbon leases would be effective or very effective in helping meet our 2040 zero emissions commitment.

'We anticipate an increased demand from companies attempting to reduce their carbon emissions for office spaces that meet that demand. Identifying buildings and leases that provide zero carbon office spaces will support such objectives. This will require a trusted, inexpensive assessment tool otherwise, consultants will use vast financial resources to assess a building and develop a strategy for zero carbon.'

Master Builders Victoria

However, industry participants also told us they were less certain about the practicality of this initiative; they were unsure what a lease could contain. Some raised concerns that using a fixed set of lease clauses may add complexity or deter some parties from negotiations. Their responses highlight the need for us to workshop and pilot a series of draft clauses with relevant stakeholders.

Links with other initiatives

A zero carbon lease is a supporting mechanism. Our research and the feedback we've received have shown that building owners and tenants need a variety of pathways to make buildings zero carbon ready. Leases can provide a straightforward tool for tenants to request zero carbon spaces and for owners to promote specific behaviour from tenants.

Next steps

Within 12 months, we will commission the development of the carbon neutral and zero carbon lease clauses, workshop the clauses with the industry and then pilot the outcomes.

9. Zero carbon risk tool

City of Melbourne's role – support the University of Melbourne to lead the delivery of this mechanism
 Timeframe for delivery – to be determined by the University of Melbourne

A zero carbon risk tool is a way for building owners to measure the impact of their building's carbon performance on its value.

Barriers it addresses

The tool helps overcome the lack of momentum by highlighting the risks of inaction to building owners and investors and providing the data to show the timeframe in which owners need to upgrade buildings before they become stranded assets. It also responds to the lack of clear metrics that underscore the need to invest in retrofits.

How will it help deliver zero carbon ready buildings?

In consultation with the industry, we will develop a zero carbon risk tool to make sure it's simple for owners to understand, manage and report on carbon risk – a ten-minute tool, for example. It will be designed as a metric to drive retrofit investment decisions based on a building's carbon performance's impact on its value.

What we heard from the consultation

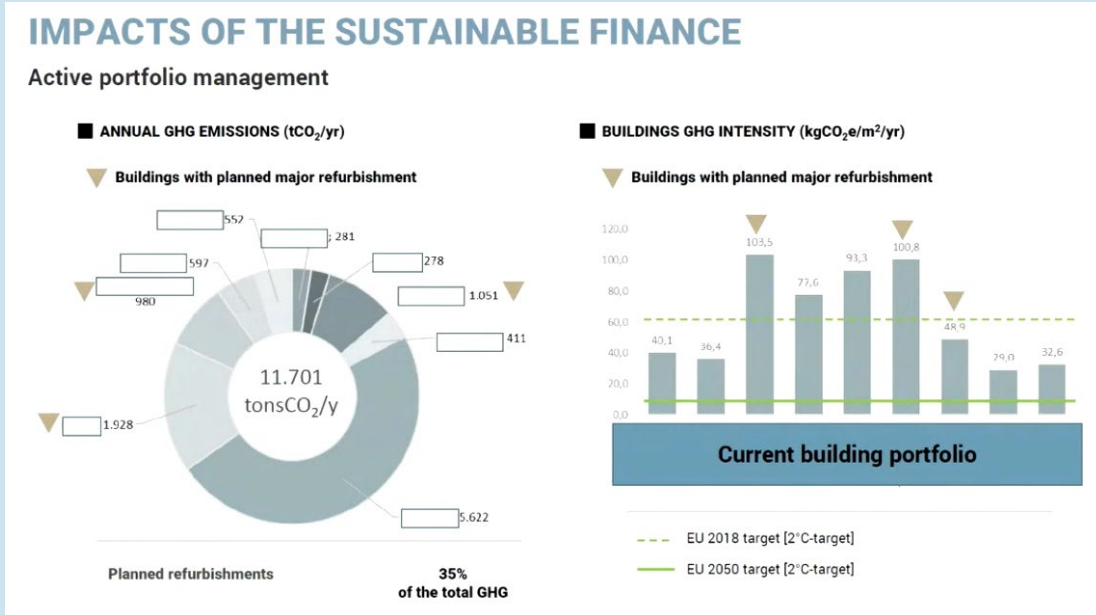
If developed well, with trusted impartiality, feedback indicated that the tool would be helpful to in understanding 'why' it is crucial to invest in retrofitting buildings. For example, the Property Council of Australia said:

'The Property Council supports this strategy, as understanding the future risk of carbon for mid and low-tier buildings will help owners make good choices to potentially seek a deep retrofit. This will enable future-proofing of assets that will bring down energy prices and be a more valuable asset to them overall.'

More than six in ten respondents thought a carbon risk tool would be effective or very effective in helping us meet the 2040 net zero emissions commitment.

Case study – understanding the risk of stranded assets

The Carbon Risk Real Estate Monitor, a free online tool for the European Union, allows property owners to assess the risk of individual assets becoming stranded: www.crrrem.eu. It helps building owners understand the market’s carbon performance expectations and decide retrofit options and purchase priorities. The COIMA property group case study below shows how an €8 billion company measures the carbon intensity of its buildings to manage its portfolio actively.



Source: ARUP webinar on net zero carbon, 2021

Links with other initiatives

The carbon risk tool allows mid-tier building owners to understand their risks. It incentivises retrofits. It will provide an effective way to retrofit when it is backed up with information and support, such as the portal, events and funding, and enabling mechanisms such as zero carbon leases.

Next steps

The University of Melbourne is leading the development of this tool. We will help them engage stakeholders in its development, provide feedback and assist with piloting and promotion.

Regulation

Evidence from around the world and previous programs implemented by both local and state governments indicate that, without regulation, it is difficult to increase retrofitting activity by the mid-tier property sector.

It is therefore critical to create a regulatory mechanism to signal to owners of existing buildings that they need to retrofit for energy efficiency.

Evidence also suggests that heralding of regulatory mechanisms such as the emissions caps in New York City, Boston, Vancouver, Seattle, Tokyo, has resulted in building owners starting to take action. That is, the signal of incoming regulation in these cities prompted retrofitting activity to avoid sanctions.

We proposed that City of Melbourne progress with a business case and impact assessment (developed in discussion with the Victorian Government) on one or both regulatory mechanisms outlined below, and develop a clear pathway and signal towards zero carbon for building owners. A proposed approach will then be recommended to Council.

10. Rates mechanism

City of Melbourne's role – develop, implement and enforce
Timeframe for delivery – three to four years

Under this mechanism, building owners who increase their NABERS energy ratings by at least two stars would receive reduced rates over ten years. It would be funded by maintaining – or in some scenarios increasing – the rate-in-the-dollar applied to buildings that do not participate rather than reducing rates as property and rental values rise. As proposed, this mechanism will not get a building to zero carbon ready status – proposed to be a 5-star NABERS rating and full electrification – however, that level of incentive could be the next step.

Barriers it addresses

A rates mechanism will help overcome the following challenges:

- difficulty identifying and engaging with mid-tier owners – rates notices could be an effective method to connect and communicate with building owners
- lack of incentive for building owners to undertake retrofits
- lack of momentum – rates will be a regular reminder of the need to transition their building to zero carbon.

How will it help deliver zero carbon ready buildings?

Our discussion paper and subsequent feedback demonstrated that incentives are needed to stimulate retrofits. Rates are a lever that City of Melbourne can utilise to provide such an incentive. In 2019, we started to investigate the potential of using a rates mechanism to incentivise energy efficiency in existing buildings.

The result of this initial work on the mechanism, update, economic and emissions outcomes, showed that a modest reduction on emissions could be achieved. Based on different policy scenarios, we calculated a reduction in emissions for the mid-tier building sector of between 3.9 and 14 per cent over 15 years.

During the more recent consultation process, mid-tier building owners responded that a reduction in rates would not be substantial enough to motivate broad scale uptake. Within the current context of City of Melbourne's commitment to zero net emissions by 2040, a rates mechanism alone would not create the deep emissions cuts we seek.

What we heard from the consultation

In our consultation, the industry supported the use of rates incentives:

‘With supporting measures, rates incentives can be an important and effective measure.’
RMIT University

‘This initiative would need to provide adequate incentives to act. It could perhaps be linked to a method of labelling zero carbon buildings to highlight this.’
Master Builders Victoria

Strikingly, the feedback showed that of all the initiatives we proposed, a rates mechanism has the most alignment between it being effective, 70 per cent, and practical, 69 per cent (see Figure 3). Respondents said that the impact of rate reductions is not just in the money saved but in the continual reminder of the efficiency opportunities. The impact will be amplified by linking it to case studies, comparisons with neighbours and reminders of the benefits, such as occupancy, value, health, environmental, social and corporate governance, and tenant attraction and retention.

We note that the industry highlighted that a land tax reduction (controlled by the Victorian Government) would provide an even greater incentive in terms of dollars potentially saved. A rates mechanism could be used in advocacy to other levels of government as a model to demonstrate the value of financial incentives.

Links with other initiatives

A rates mechanism incentivises building owners to use the information, support and regulations proposed in this plan to accelerate their retrofit trajectory. Rates notices also provide an opportunity to remind building owners that these resources are available and that they can financially benefit if they choose to use them.

Next steps

We have previously analysed the potential impact of a rates mechanism but put further development on hold during COVID-19. We will begin the next phase by testing the outputs of our analysis with building owners and key industry stakeholders to develop a rates mechanism model for Council endorsement.

11. Emissions cap

City of Melbourne's role: develop, pilot and advocate to the Victorian and Australian Governments

Timeframe for delivery: three to five years

An emissions ceiling or cap is a regulatory tool that mandates a limit on building emissions following a transition period. Building owners must follow a compliance order if their building's emissions exceed the cap or face financial penalties for inaction.

The proposed date for the enforcement of the cap must be communicated clearly to give owners a fair opportunity to comply with the expected level of performance. It must also meet our target for net zero emissions by 2040.

Marshall Duer-Balkind, from the Institute for Market Transformation, was part of the team that delivered the Washington D.C. and Vancouver cap policies. He explained the importance of clear communication and timelines this way: 'There is a lot you can do if you have a long runway.'

Barriers it addresses

An emissions cap will help us overcome the following challenges:

- lack of incentive to act – by mandating emissions reductions
- lack of knowledge – by encouraging building owners to understand their energy use
- lack of clear expectations – by providing building owners with a clear path for retrofit strategies based on the increasing stringency of the cap
- lack of urgency – by giving a clear emission reduction timeline.

How will it help deliver zero carbon ready buildings?

Based on a benchmark building energy performance standard, an emissions cap provides a clear timeline for required action, a clear target metric, and financial consequences for non-compliance and inaction. It has proven effective in accelerating retrofit rates in several cities in the United States, including New York (noting that cities in the United States have different regulatory controls at their disposal to Australian cities).

Once implemented, an emissions cap is a potential revenue source that could support further decarbonisation initiatives.

What we heard from the consultation

Through our discussion paper research and subsequent feedback, we heard clearly that a strong market signal is required to drive retrofit momentum. Respondents considered an emissions cap the most likely to be effective of all the initiatives proposed. It is seen as fair if well foreshadowed because the industry is provided with a clear timeframe to make the necessary adaptations.

'This initiative also provides a strong incentive for all institutions to reduce emissions – which in turn strengthens a number of the previous initiatives. Maybe this is a scheme that could be collaboratively undertaken with other CBD municipalities across Australia?'

ARUP

Case study – New York City’s emissions cap

In 2019, New York City Council introduced [Local Law 97](#), setting emissions intensity limits for various building typologies. The first emission limits apply from 2024 until 2029, with tighter limits from 2030 to 2034, when the financial penalties also increase. This timeframe gives property owners time to evaluate their stock and identify strategies to meet requirements. It also allows the industry to build the capacity to support these strategies.

The law has brought in the ‘social cost’ of carbon – a penalty of \$US268 (around \$A358) for every metric tonne of carbon dioxide equivalent above the cap limit. The strategy will reduce greenhouse gases from all of NYC’s building stock by 80 per cent by 2050.

The emissions cap is part of the city’s *Climate Mobilization Act 2019*. The Act aims to reduce six million metric tons of greenhouse gases, create more than 26,700 jobs, avoid 150 hospitalisations and prevent 50 to 130 deaths annually by 2030 (Petross, 2022).

Other cities that have local law emissions caps and building energy performance standards include (Ribeiro et al. 2020; Institute for Market Transformation, 2021):

- Washington State
- St Louis Missouri
- Washington D.C.
- Tokyo
- Vancouver
- Seoul.



The Flatiron Building, New York City
Source: rawpixel.com

Links with other initiatives

A cap with effective support and information will incentivise building owners to invest in their retrofit; for example, by taking up a zero carbon lease, being part of a precinct, or engaging a zero carbon team.

Next steps

An emissions cap must be developed over the next three to five years. The first step is to model it for the municipality, in consultation with the Victorian Government, taking lessons from successful overseas models. We will also need to work with the industry to agree on a fair implementation timeline, which gives owners fair warning to make necessary retrofits. Still, we will deliver on our target for net zero emissions by 2040.

12. Comparison of the two regulatory approaches

The table below compares the two proposed regulatory initiatives, taking into account their impact on emissions reduction and, influence on the market, and our ability to deliver.

Initiative	Advantages	Disadvantages
Rates mechanism	<ul style="list-style-type: none"> • provides a periodic reminder for building owners to be involved and a means to share information and support • creates a financial incentive over 10 years • establishes a clear measurement mechanism via NABERS 	<ul style="list-style-type: none"> • low impact – does not deliver zero emissions; forecast to incentivise emissions reductions of between 3.9 and 14 per cent over 15 years • lacks support from building owners • lacks precedent for buildings, although it has been used for other areas such as waste

Emissions cap	<ul style="list-style-type: none"> • uses City of Melbourne’s powers <ul style="list-style-type: none"> • high impact – enables net zero emissions, if the grid is decarbonised • provides a clear direction and end point • establishes clear steps for implementation • creates revenue – for example in New York City building owners are charged US\$0.50 per square foot for not reporting, and US\$268 per tonne carbon dioxide equivalent over the cap • creates capacity to support at-risk buildings and groups • follows precedents in Europe, North America and Asia. <ul style="list-style-type: none"> • requires other levels of government to implement because City of Melbourne lacks the legal power to establish an emissions cap • may insufficiently incentivise retrofits because of the current limits on the fines we can impose – that is, it may be cheaper to pay the fine • creates an uneven playing field for our municipality against the rest of Melbourne – requires the Victorian Government to apply a similar mechanism elsewhere • needs resourcing to create metrics, steps, tools, guidance, training and information.
----------------------	--

DRAFT

Bibliography

Australian Office of Financial Management (2022) *Australian Government Climate Change commitments, policies and programs: A guide for AGS investors*, accessed 8 May 2023. https://www.aofm.gov.au/sites/default/files/2022-11-28/Aust%20Govt%20CC%20Actions%20Update%20November%202022_1.pdf

ARUP (2021) *Webinar: Net Zero Carbon Delivery*, accessed 18 July 2022. <https://www.arup.com/news-and-events/net-zero-for-property-local-and-global-insights-series-webinar-2>.

City of Melbourne (2022a) *Building towards zero carbon target*, accessed 8 May 2023. <https://www.melbourne.vic.gov.au/news-and-media/Pages/Building-towards-zero-carbon-target.aspx#:~:text=Commercial%20buildings%20are%20responsible%20for,six%20per%20cent%20of%20emissions>

City of Melbourne, (2022b) *Zero carbon buildings for Melbourne – discussion paper*, <https://participate.melbourne.vic.gov.au/zero-carbon-buildings-melbourne>

EY (2015) *Mid-tier commercial office buildings in Australia: Research into improving energy productivity*, Green Building Council of Australia, accessed 8 May 2023. https://www.gbca.org.au/uploads/97/36449/Mid-tier%20Commercial%20Office%20Buildings%20Sector%20Report_FINAL.pdf

International Energy Agency (2020) *Sustainable Recovery*, accessed 18 July 2022. <https://www.iea.org/reports/sustainable-recovery>

Institute for Market Transformation (2021) *Comparison of U.S. Building Performance Standards*, accessed 25 May 2023. <https://www.imt.org/wp-content/uploads/2021/01/IMT-Comparison-of-Building-Performance-Policies-January-2021.pdf>

Petrass, R.M. (2022) *What Australian cities can learn from New York City's building emissions laws*, The Fifth Estate, accessed 3 August 2022. <https://thefifthestate.com.au/urbanism/planning/what-australian-cities-can-learn-from-new-york-citys-building-emissions-laws/>

Point Advisory (2022, unpublished) *Commissioned model for the City of Melbourne on retrofit rate, investment, jobs and economic contribution*.

Ribeiro, D., S. Samarripas, K. Tanabe, A. Jarrah, H. Bastian, A. Drehobl, S. Vaidyanathan, E. Cooper, B. Jennings, and N. Henner (2020) *The 2020 City Clean Energy Scorecard*, American Council for an Energy-Efficient Economy, accessed 25 May 2023. www.aceee.org/local-policy/city-scorecard

Sustainability Victoria (2018) *The Mid-Tier Offices Investment Performance Study*, accessed 7 August 2023. <https://assets.sustainability.vic.gov.au/susvic/Report-Energy-Commercial-buildings-MTOB-Final-Report-Mar-2018.pdf>

How to contact us

Online:

melbourne.vic.gov.au

In person:

Melbourne Town Hall - Administration Building
120 Swanston Street, Melbourne
Business hours, Monday to Friday
(Public holidays excluded)

Telephone:

03 9658 9658
Business hours, Monday to Friday
(Public holidays excluded)

Fax:

03 9654 4854

In writing:

City of Melbourne
GPO Box 1603
Melbourne VIC 3001
Australia



Interpreter services

We cater for people of all backgrounds
Please call 03 9280 0726

03 9280 0717 廣東話
03 9280 0719 Bahasa Indonesia
03 9280 0720 Italiano
03 9280 0721 普通話
03 9280 0722 Soomaali
03 9280 0723 Español
03 9280 0725 Việt Ngữ
03 9280 0726 عربي
03 9280 0726 한국어
03 9280 0726 हिंदी
03 9280 0726 All other languages

National Relay Service:

If you are deaf, hearing impaired or speech-impaired,
call us via the National Relay Service: Teletypewriter (TTY)
users phone 1300 555 727 then ask for 03 9658 9658
9am to 5pm, Monday to Friday (Public holidays excluded)

melbourne.vic.gov.au



CITY OF MELBOURNE