

Power Melbourne

World-Leading Battery Power for Melbourne

City of Melbourne

# Power Melbourne A City Powered by 100% Renewables

The City of Melbourne strives to be a world-leader in the global response to climate change. As a City of Possibility, we work diligently to reduce our operational greenhouse gas emissions and to partner with our community on bold and innovative projects.

The City of Melbourne has set ambitious goals to be a city powered by 100% renewable energy by 2030 and achieve net zero emissions for the entire municipality by 2040. In order to achieve this, and enable other municipalities to do the same, we are proud to launch Power Melbourne, a partnership between the University of Melbourne and RMIT.

Power Melbourne will see a network of neighbourhood-scale batteries established across inner-Melbourne councils to deliver more renewable energy into the grid and to extend the benefits of affordable renewable energy to small businesses and residents.

A project aligned with Australia’s Long-Term Emissions Reduction Plan, Power Melbourne accelerates the deployment of new technology at scale across our city. Our ambition is to create a model which can be replicated across greater Melbourne, and beyond.

Power Melbourne will result in an increased uptake of renewables, creating new opportunities for research, training and jobs in the green technology sector while helping build the ecosystem to become a centre for clean energy innovation. It represents a huge stride towards achieving our ambitious emissions reduction targets.

Partnerships are key to our success. We are partnering with State government, industry, local universities and council networks. Third party investment is currently being sought to support the pilot and scaling stages of the project.

We invite those who share our vision for a more sustainable city to join us in delivering this innovative initiative. We know Power Melbourne will make our marvellous city more sustainable and deliver an affordable renewable energy to Melbourne’s residents and businesses alike.

Lord Mayor  
Sally Capp

# Leading by Example Sharing the Benefits

In 2017, the City of Melbourne led the transition away from coal through a 10-year, $150 million renewable energy group purchase agreement. In an Australianfirst, the Melbourne Renewable Energy Project saw a group of local governments, universities and corporations collectively fund a new windfarm.

Power Melbourne builds on that success. By putting our small businesses and apartment residents first, Power Melbourne will give them access to the same fair, affordable renewable energy.

The City of Melbourne is partnering with universities and the clean technology sector to deliver mid-scale energy storage batteries and create innovative viable delivery models. It will partner with a coalition of inner Melbourne councils to scale the project.

Power Melbourne will engage the community and inspire the market to transform by demonstrating feasibility and sharing insights and data.

The potential impact of Power Melbourne will be far more significant if it spawns replicable solutions for use in municipalities beyond those led by the City of Melbourne. This project demonstrates scalable solutions that can assist communities in the race to rapidly reduce emissions, helping us to achieve critical climate targets together.

# Power Melbourne Locations

## Prospective sites, scaling across Greater Melbourne from 2024–25.

1. **Melbourne Innovation District**

This area in Parkville has significant landholdings by the City of Melbourne and the some of Melbourne’s top universities. Power Melbourne will create opportunities for research, education, training and job creation through the development of living labs.

**Renewables capacity**

The RMIT Carlton campus currently houses a 1,500-panel solar system with 600 kW onsite generation capacity.

1. **Queen Victoria Market**

The largest open-air market in the southern hemisphere is undergoing renewal, securing its long-term viability and generating significant benefits for the community. For every $1 invested in the renewal, $4.13 in value flows into the local economy.

**Renewables capacity**

In 2003, Queen Victoria Market had the largest urban grid-connected solar system in the southern hemisphere. The City of Melbourne increased this system to 700 kW in 2021.

**3 & 4. City Libraries**

Southbank Library, set within the heritagelisted former JH Boyd Girls’ High School, is now home to Boyd Community Hub. By Victoria Harbour, Library at the Dock is Australia’s first 6-Star Green Star rated public building.

**Renewables capacity**

Library at the Dock houses an 85 kW solar system and Southbank Library houses a 20 kW solar system.

1. **Fishermans Bend National Employment and Innovation Cluster**

Australia’s largest urban renewal project will deliver homes for around 80,000 residents and employment for 80,000 people. Melbourne University’s Engineering and Design innovation campus will soon join Boeing, Siemens and the Department of Defence on site.

**Renewables capacity**

Demands on the electricity network are expected to increase significantly in coming decades. The City of Melbourne is working with partners to embed renewable energy generation, storage and distribution.

1. **Kensington Recreation Centre**

Construction has started on the redevelopment of this recreation hub located in a high-density residential area close to the Arden Employment and Innovation Precinct where homes for around 15,000 residents and 34,000 jobs will be located.

**Renewables capacity**

The design includes 200kW of solar panels that will generate the bulk of electricity for the centre.

1. **Council House 2**

Australia’s first building to be awarded a 6-Star Green Star design rating, Council House 2 was built by Hansen Yuncken in 2006. The building has inspired developers and designers locally and internationally.

**Renewables capacity**

Council House 2 has 23 solar panels that generate close to 3.6 kW of electricity. The site shows potential to upgrade the current small solar system to a 50 kW array.

# Map representation of prospective sites in the following order: 1, Carlton 2, West Melbourne 3, Southbanks 4, Docklands 5, Fishermans Bend 6, Kensington 7, Melbourne CBD

# The Power Melbourne Vision Empowering our People Achieving our Goals

A global leader on climate action, the City of Melbourne will be powered by 100 per cent renewable energy by 2030, and achieve zero net emissions by 2040. We are dedicated to building energy efficient urban communities that are sustainable, safe, affordable and inclusive, drawing people here from around the world to visit, work and live.

To do this we must ensure everyone has access to fair, affordable, renewable energy. Power Melbourne will challenge the status quo and make this a reality.

Power Melbourne will transform our fragmented energy infrastructure into a network of coordinated mid-scale batteries across the city. Its network of batteries will allow people to make better choices when sourcing their energy. By offering a simple option to purchase renewable electricity, it also equips people to be leaders in adopting sustainable energy-generating technology.

This flagship project enables Melbourne to realise its commitment to achieving net-zero emissions by 2040 for the entire municipality. Accelerating the deployment of state-of-the-art technology at scale, it is a crucial step to unlock climate capital, and will cement Melbourne’s reputation as a global centre for clean energy innovation.

# Become our partner

## Accelerate change

The City of Melbourne needs partners to establish a network of coordinated mid-scale batteries and a renewable electricity offering for the community. Together we can accelerate transition to a 100 per cent renewable powered city.

With the support of the Victorian Government, the University of Melbourne and RMIT University, the first stage of the project is underway.

We are now seeking $50 million from the Australian Government to make Power Melbourne a reality. Staged appropriately, this funding will ensure scaleable commercial outcomes are maximised.

As a model that can be delivered at any scale, Power Melbourne will also require private financial partnerships to assist with achieving this outcome.

The project’s first phase will focus on key sites in the municipality. Once the demonstration network pilot is established, batteries can be added, either by increasing the density of batteries, via expansion to inner-city councils, or further to all Melbourne councils, or any combination of the above.

Partnerships with landowners in the City of Melbourne are also being sought to host batteries.

Proposed Funding Schedule

|  | **2021-22** | **2022-23** | **2023-24** | **2024-25** | **2025-26** |
| --- | --- | --- | --- | --- | --- |
| City of Melbourne | $0.5M | $1M | $1-4M | - | - |
| Victorian Government | $0.2M | $0.4–5M | $5–10M | $2–5M | $2–5M |
| Australian Government |  | $10M | $20M | $10M | $10M |
| Private |  | $9–10M | $6–9M | $5–8M | >$5M to scale |

## The Benefits of Power Melbourne

## Scalable & significant

We must find ways to store energy to accelerate the transition to a renewable electricity grid. Energy storage enables more intermittent renewable power to be put back into the grid. It monitors and shifts renewable power generation to match demand.

Energy storage is crucial to our future energy system. Neighbourhood-scale batteries such as those proposed through Power Melbourne have the capacity to deliver power to the grid, reducing consumer energy prices. They can support the network at the point where power is being consumed and provide a visible project to inspire communities.

### Power Melbourne offers a broad range of benefits:

* Dispatchable energy storage for firming capacity
* A scalable solution for battery deployment in urban centres
* Opportunities to link with new and emerging local battery manufacturing industries
* Opportunities to develop Melbourne as an employment centre of a resilient net zero economy through training, research and the development of new energy industry capabilities
* Emissions reduction that supports our ambition to power the city with 100 per cent renewable energy by 2030, and achieve net zero emissions by 2040;
* Affordable retail electricity for residents and business.

“Community-scale energy storage has a vital role to play in accelerating the transition to a highly renewable electricity grid and low carbon economy.”

**Professor Michael Brear, Director of the Melbourne Energy Institute**

# Renewables are the Future

## Victoria’s opportunity

Australian states and territories continued to lead the country’s renewable energy transition in 2021. In that year, renewables provided one third of Victoria’s energy and the renewable energy industry continues to grow at an ever-increasing pace.

In 2021, Victoria launched its second renewable energy auction, procuring 600 MW of new large-scale wind, solar and hydro capacity across the state. Victoria also delivered Australia’s largest battery in 2021, following the completion of the 300 MW Victorian Big Battery.

The Australian Energy Market Operator indicates that a nine-fold increase in large scale renewable energy will be needed to reach zero emissions across Australia.

Over the coming decade Power Melbourne can help Melbourne seize the opportunity to replace fossil energy with renewable energy, coupled with energy storage.

**Construction of large-scale renewable energy projects (sourced from Clean Energy Council as at April 2022)**

| **Victoria** | **Australia** |
| --- | --- |
| 1.8GW  Capacity | 9.3GW  Capacity |
| $3.5B  Investment | $18.4B  Investment |
| 5,181  Jobs | 35,132  Jobs |

# Timeline

## The Power Melbourne initiative will scale over three years, from 2022 to 2025.

The project’s initial focus will be to deliver a demonstration network of up to 500 kW / 1 MWh batteries at city-owned or managed locations from 2023 onwards. We will then design and launch a retail solution, supported by the battery network.

Subject to demonstration of commercial viability, the battery network and retail offering will be expanded through strategic partnerships in 2023–24, demonstrating how the model can be replicated.

| **Feasibility 2021/22** | **INITIATE 2022/23** | **DELIVER 2023/24** | **SCALE 2024/25** |
| --- | --- | --- | --- |
| **Phase 1** | **Phase 2** | **Phase 3** | **Phase 4** |
| **Techno-economic feasibility study** supported through Victorian Government Neighbourhood Battery Initiative | **Innovate with industry** to refine delivery model | **First battery** on City of Melbourne assets | **Expand** network of distributed batteries with partners across Greater Melbourne |
| **Collaborate with Distribution Network Service** **provider:** Citipower / Powercor / United Energy | **Commercial feasibility** for battery network and plan for retail partnership | **Establish network** of batteries with partners, demonstrate proof of concept | **Scale** in partnership with leading organisations |
| **Release Expression of Interest** to engage technology providers and market participants | **Select tender** to appoint commercial delivery partner(s) | **Launch retail electricity offering** for community members |  |