

Powering our councils with renewables:

A guide by the Cities Power Partnership

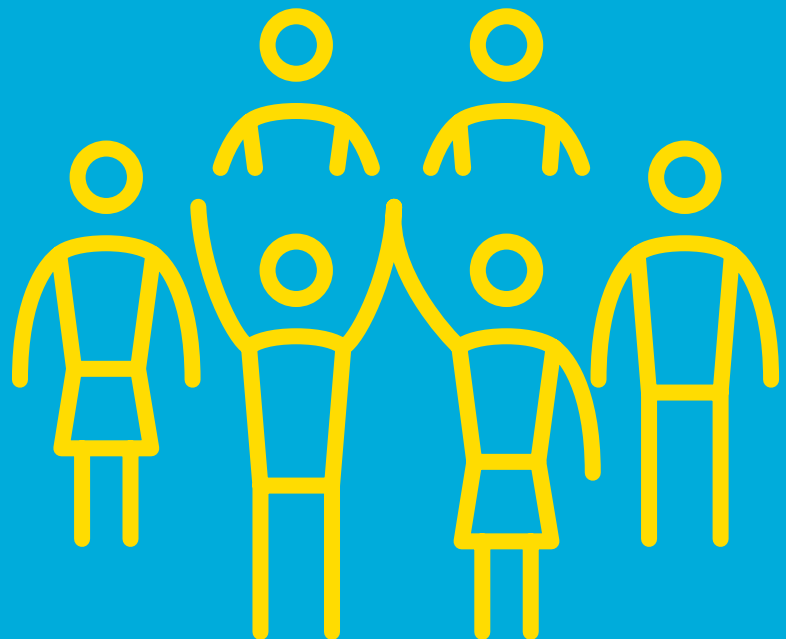




Introduction

Local governments throughout Australia are stepping up to deliver meaningful action on climate change. As the closest level of government to the community, local governments understand the need to take urgent action in order to avoid the worst impacts of climate change and harness the benefits of the clean economy.

Transitioning to 100 percent renewable electricity is an essential step in reaching net zero emissions that demonstrates councils' leadership whilst delivering economic, social and health benefits to their communities. Australian councils of all shapes and sizes are already benefiting from making the switch. This guide is intended to help local governments understand these opportunities and present some of the key actions they can take to reach 100 percent renewable electricity.





About the Cities Power Partnership

With over 180 councils on board, the Cities Power Partnership (CPP) is Australia's largest network of local councils leading the way to a thriving, zero emissions future. The program is part of the Climate Council of Australia and since being created in 2017 has seen tangible action and huge emissions reductions taking place across the country.

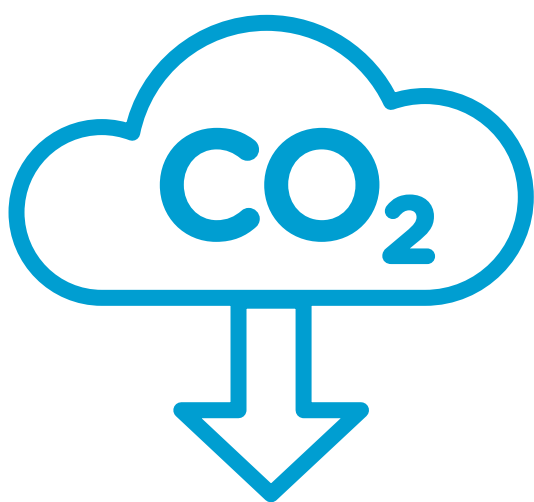
The CPP has developed this guide to support local governments in establishing 100 percent renewable electricity for their operations, as well as to educate council decision makers about the steps they can take to achieve this goal.

Why transition your council to 100 percent renewable electricity?

To do our fair share in avoiding the worst impacts of climate change, Australia needs to reduce its current greenhouse gas emissions by 75 percent by 2030 and achieve net zero emissions by 2035.¹

Local governments have an essential role to play, which includes tackling their own corporate emissions.² Collective action by councils can have a significant impact in driving down emissions, supporting the development of clean industries, and demonstrating what is possible to local businesses, industry and households.

Electricity consumption represents the biggest source of corporate emissions for most Australian local governments. Fortunately, affordable solutions exist to cut these emissions in the near-term while delivering other benefits for your council and community.



¹ Climate Council of Australia (2021) Aim High, Go Fast: Why Emissions Need to Plummet This Decade, <https://www.climatecouncil.org.au/wp-content/uploads/2021/04/aim-high-go-fast-why-emissions-must-plummet-climate-council-report-210421.pdf>

² Corporate emissions refer to greenhouse gas emissions that councils have operational control over, such as the operation of buildings, facilities and corporate vehicles.

How can your council set a renewable energy target?

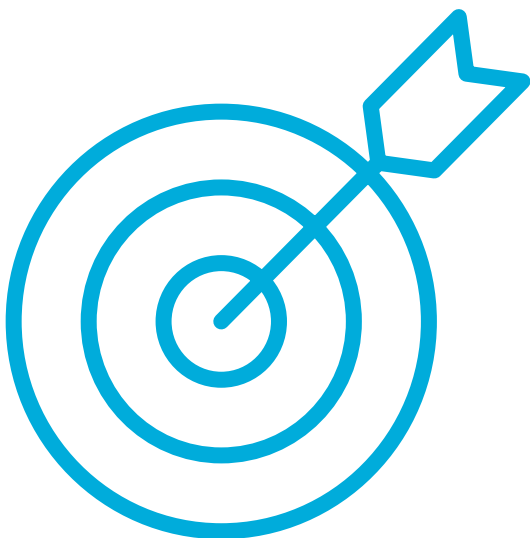
Setting an ambitious target is a great way to demonstrate your council's commitment to taking action on climate. Targets also enable your council to set a clear direction and timeline, identify potential pathways to achieving your goal, and to monitor progress.³

Renewable energy targets are now common among Australian local governments, with 41 percent of CPP member councils having set a corporate target and a further 20 percent investigating setting one in the near future. Councils are also setting ambitious emissions reduction targets for their entire corporate operations, with 60 percent of CPP member councils having taken this step.

As of February 2023, 25 Cities Power Partnership member councils have already achieved 100 percent renewable electricity consumption within their council operations, with many more well on their way to achieving this goal.⁴ Reaching 100 percent renewables is an essential part of meeting these targets, along with other measures such as energy efficiency improvements and switching from fossil fuels to electricity.

Councils should aim to set a target that is both **ambitious** and **achievable**, taking into consideration its energy needs, availability of solutions and budget. An audit of your council's emissions profile and energy usage is a great place to start.

In order to align with the goals of the Paris Agreement, councils' corporate emissions targets should aim to reach net zero by 2035. Given the existing opportunities and benefits of switching to renewable energy, best practice targets aim to reach 100 percent renewable electricity well before 2030.



³ 100% Renewables (2019), *Target setting – What should be the scope of your target?*, <https://100percentrenewables.com.au/scope-of-target/>

⁴ Cities Power Partnership (2023), *Tracking Progress: 2020 Snapshot of Council Action on Climate Change*

What can your council do to reach 100 percent renewable electricity consumption?

Councils can achieve 100 percent renewable electricity consumption by implementing a range of measures including energy efficiency improvements, onsite generation and offsite renewable electricity.⁵

Choosing the right options for your council will depend on a number of factors including your objectives, budget, in-house expertise and the availability of appropriate sites for renewable energy generation. The following section presents a sample of replicable actions that local governments in Australia are already taking to reach 100 percent renewable electricity.



⁵ Business Renewable Centre Australia (2022), *Offsite Renewable Energy: A Guide for NSW Local Councils*, https://businessrenewables.org.au/wp-content/uploads/2023/02/LG-Guide_Feb-2022.pdf

Onsite renewable energy

Install solar PV and storage on council-owned assets

The buildings and facilities owned and operated by local governments present great opportunities to install renewable energy systems, especially solar PV and storage. Operating onsite solar can save councils money by reducing the amount of electricity needing to be purchased from the grid and also enabling the sale of energy back to the grid.

The combination of onsite solar and batteries can also make community facilities more resilient to power outages and extreme weather. According to our 2022 annual survey, 158 Cities Power Partnership member councils stated that they had installed solar PV on council facilities, making it the most popular council action to reduce operational emissions.

Installing solar PV and storage can require a significant upfront investment, however this cost is generally paid back in energy cost savings in 2-5 years.⁶ Before installing a solar system, councils will need to carefully consider its electricity requirements, the availability of sites for installation, and the most appropriate system to suit its needs. Further guidance on finding the right system and installer can be found [here](#).



⁶ Clean Energy Council 2022, *Guide to Installing Solar PV for Business and Industry*, https://assets.cleanenergycouncil.org.au/documents/consumers/CEC_SOLAR_BUS_0114_v10_JUNE2020v2_WEB.pdf

Case Studies

Logan City Council (QLD)

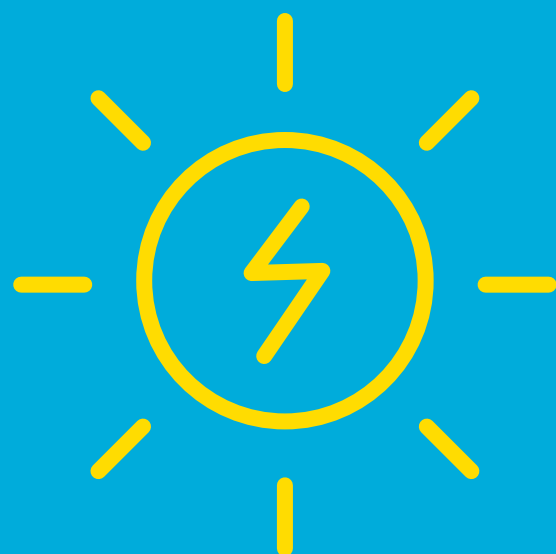
Logan City Council is embracing on-site renewable energy generation. With numerous large rooftop solar PV systems recently installed, Council now boasts more than two megawatts of solar PV. Solar PV systems installed on Council libraries, aquatic and sports centres, and a water reservoir generated a total of 2.6 gigawatt hours of renewable energy in 2021-22 and contributed to Logan City Council achieving carbon neutral certification.⁷

Shoalhaven City Council (NSW)

To lower future electricity bills and reduce greenhouse gas emissions, Shoalhaven City Council is continually scoping investment in onsite renewable energy generation. Shoalhaven City Council has recently installed an additional 445 solar panels as part of its efforts to slash its corporate carbon emissions and reduce the running costs of its wastewater treatment plants. Shoalhaven Water, Council's Water Utility, oversaw the installation of the 178 kilowatts of new solar new solar PV across three of its wastewater treatment plants, Nowra (100 kW), Bomaderry (50 kW) and Culburra (28 kW). These solar systems are expected to generate around 250,000 kilowatt hours (kWh) of electricity annually and reduce greenhouse gas emissions by around 200 tonnes per year.⁸

City of Nillumbik (VIC)

The City of Nillumbik has installed solar PV on a council-owned site to both mitigate the causes of climate change and make their community more resilient to its impacts. Council has installed a hybrid solar (100kW) and three-phase (100kWh) battery system on the Diamond Creek Community Bank Stadium. This system is capable of providing off-grid power for up to eight hours in the event of a grid failure, providing a safe place for up to 800 people to shelter in the Stadium during heatwave periods and fire events. It also powers the Shire's first EV charging station. The system is performing above expectations, achieving a 79 percent reduction in grid-sourced power since it was commissioned.⁹



⁷ Logan City Council (2023), 'Council celebrates carbon neutral certification', <https://www.logan.qld.gov.au/news/article/959/council-celebrates-carbon-neutral-certification>

⁸ Shoalhaven City Council (2022), *Council's Solar-powered Treatment Plants Have a Bright Future*, <https://www.shoalhaven.nsw.gov.au/Council/News/Councils-Solar-powered-Treatment-Plants-Have-a-Bright-Future>

⁹ City of Nillumbik (2020), Entry to the Cities Power Partnership Climate Awards

Offsite renewable energy

Most organisations are not able to fulfil their entire electricity consumption with onsite renewable electricity alone.¹⁰

Most councils therefore purchase offsite renewable electricity in order to meet their targets. However, some councils have taken the step of building their own large-scale renewable electricity generators. As a general rule, purchasing GreenPower or LGCs can be well suited to smaller load (around 5-20 GW); While PPAs are generally more appropriate for larger loads (over 20 GW). This is why group buys may be the appropriate for most councils and businesses to meet the required load.

Purchase GreenPower or Large-Scale Generation Certificates

A simple way for councils to switch to renewable energy is by purchasing it directly from their electricity retailer. Most retailers offer accredited renewable electricity under the Australian Government's GreenPower scheme.¹¹ This scheme enables retailers to purchase additional Large-Scale Generation Certificates (LGCs) under Australia's Renewable Energy Target scheme to offset their customers' electricity consumption with additional renewable electricity.¹² Any council with an energy retailer can access GreenPower, however it is generally offered at a higher cost than standard retail products. For further information, visit the [GreenPower website](https://www.greenpower.gov.au/) or contact your electricity retailer.

An alternative way for councils to demonstrate that they have purchased additional renewable electricity is to purchase and surrender LGCs themselves. To do this, your council will need to register an account with the Australian Government's [REC Registry](https://www.rec.gov.au/). LGCs are also subject to price fluctuation and therefore councils should seek advice when considering this option.



¹⁰ https://businessrenewables.org.au/wp-content/uploads/2023/02/LG-Guide_Feb-2022.pdf

¹¹ <https://100percentrenewables.com.au/eight-ways-100-renewable-electricity/>

¹² <https://www.greenpower.gov.au/>

Purchase renewable electricity through a power purchase agreement

Australian local governments are increasingly benefiting from buying their power through renewable energy power purchase agreements (PPA).

According to our 2022 annual survey, over 60 percent of CPP member councils currently purchase renewable energy through a Power Purchase Agreement, with another 27 percent actively investigating or seeking one.

A renewable PPA or 'offtake' agreement is a long-term agreement to purchase electricity from a renewable energy generator, typically over a 7-10 year period.¹³ PPA can take several forms, including buying directly from a renewable energy generator ('wholesale PPA')

or via an energy retailer ('retail PPA'). PPAs can deliver multiple benefits to councils, including long-term price certainty, competitive pricing, and the ability to support local clean economies by purchasing directly from specific generation sites. In some cases, PPAs can also offer significant cost savings compared to short-term electricity purchasing contracts.¹⁴

A PPA may involve buying electricity from an existing renewable energy project or provide revenue certainty for a project that is yet to be built.¹⁵ PPAs can involve purchasing electricity, LGCs or both.¹⁶ It is currently most common for councils in Australia to choose a retail PPA.¹⁷

What should you consider before seeking a PPA?

A PPA is a long-term commitment that requires careful planning and consideration. Before pursuing a PPA, your council should assess whether a PPA is its best option. This should include consideration of whether your council:

- > Has a sizeable and stable electricity demand in the long-term
- > Can commit to a minimum demand over the agreement's duration
- > Is prepared to take on a degree of financial risk associated with committing to a long-term price agreement

Any organisation that takes part in a PPA will need to commit time and resources to ensure it procures a deal that suits its needs and capacity. Ongoing support from key decision makers is therefore required throughout the procurement process. Before pursuing a PPA, senior decision makers in your council should consider whether a PPA is the best option to meet the organisation's objectives, including its sustainability and financial goals.

Leading the procurement of a PPA can be a lengthy and resource-intensive process. It requires internal expertise and project management capacity, as well as external legal, procurement and energy market advisors. Organisations like the [Business Renewables Centre](#) can assist your council in accessing the information it needs when considering a PPA.

¹³ <https://arena.gov.au/assets/2021/12/corporate-renewable-power-purchase-agreements-in-australia-state-of-the-market.pdf>

¹⁴ <https://www.melbourne.vic.gov.au/sitecollectiondocuments/mrep-guide-renewable-energy-procurement.pdf>

¹⁵ <https://www.melbourne.vic.gov.au/sitecollectiondocuments/mrep-guide-renewable-energy-procurement.pdf>

¹⁶ <https://www.melbourne.vic.gov.au/sitecollectiondocuments/mrep-guide-renewable-energy-procurement.pdf>

¹⁷ Councils in some states are not legally permitted to enter a contract for difference agreement, which is the most common form of direct PPA. All councils should seek legal advice before considering this option. For more information see https://businessrenewables.org.au/wp-content/uploads/2023/02/LG-Guide_Feb-2022.pdf

Group PPAs

While some Australian councils are resourced to procure a PPA on their own, many are now benefiting from taking part as part of a buying group. This model allows organisations to pool their resources and attract competitive deals by leveraging their collective buying power. In Australia, group PPAs have been coordinated via leading councils, Local Government Associations, Regional Organisations of Councils and Climate Alliances.



Case Studies

City of Sydney Electricity Deal

Since July 2020, 100 percent of the City of Sydney's energy consumption has been met using renewable electricity. This includes approximately 115 buildings (libraries, community halls, office buildings), 75 parks, 5 pools and 23,000 street lights. This is the result of a PPA between the City and an energy retailer to purchase renewable energy from two wind farms and one solar farm located in New South Wales over a 10 year period. As well as securing affordable renewable energy in the long-term, the City was able to achieve a key objective by purchasing electricity from a community-operated generator.¹⁸

Victorian Energy Collaboration (VECO)

VECO is Australia's largest ever local government emissions reduction project, which has now seen 51 councils pooling their energy needs into one long-term contract. By combining their purchasing power, VECO participants have secured a deal that will reduce their energy purchasing costs while cutting their greenhouse gas emissions by a total of 260,000 tonnes.¹⁹ The project is the culmination of many years of behind the scenes work between the partner councils, the City of Darebin (the lead council) and the Victorian Greenhouse Alliances.²⁰

Western Australia Local Government PPA

In 2021, the Western Australian Local Government Association successfully facilitated a PPA that is currently enabling 48 local governments throughout WA to purchase renewable energy. Most of these councils are using the deal to reach 100 percent renewable electricity consumption. The agreement is supporting the local clean economy by purchasing electricity from two wind farms in Western Australia.

Melbourne Renewable Energy Project

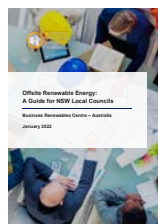
The City of Melbourne has combined its purchasing power with other councils, businesses and institutions to tackle both corporate and community emissions. The City partnered with 13 organisations (local governments, cultural institutions, universities and corporations) to secure a 10 year renewable Power Purchase Agreement that in turn supported the construction of an 80 MW wind farm in regional Crowlands, VIC. Part of the evaluation criteria included a preference for using local goods and services, which saw the Crowlands wind farm construction deliver significant economic development for the region, including providing near to 150 local jobs.²¹

Further Information

Further guidance is available for councils who are interested in learning more about PPAs, including:



The City of Melbourne's
[Renewable Energy Procurement Guide](#)



The Business Renewables Centre Australia's Offsite Renewable Energy: A Guide for NSW Local Councils

¹⁸ City of Sydney (2023), '5 Things to Know About our Electricity Deal', <https://news.cityofsydney.nsw.gov.au/articles/5-things-to-know-about-our-electricity-deal>

¹⁹ VECO (2020), 'The Victorian Energy Collaboration', <https://www.veco.org.au/>

²⁰ Central Victorian Greenhouse Alliance (2021), <https://www.cvga.org.au/victorian-energy-collaboration.html>

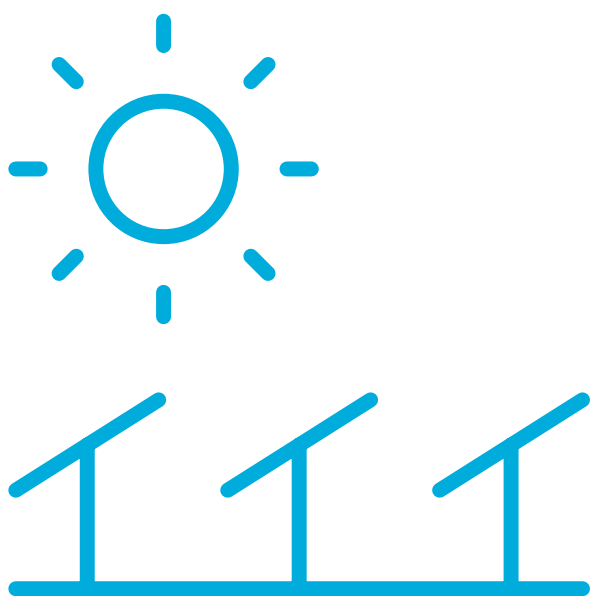
²¹ City of Melbourne (2020), Cities Power Partnership survey response, September 2020. For further project information see: <https://www.melbourne.vic.gov.au/business/sustainablebusiness/mrep/Pages/melbourne-renewable-energy-project.aspx>

Build your own solar farm

Some Australian councils have built their own large-scale renewable solar farms as a way of achieving their sustainability, financial and community development goals.

This model involves building a solar farm on council-owned land or land owned by a project partner. Unlike onsite solar PV, these generators are connected to the grid rather than 'behind the meter'. This approach presents the benefit of generating revenue by selling electricity, directly supporting the local economy through project construction and management opportunities. It also demonstrates an effective climate solution within the local community that simultaneously supports the resilience of the local electricity network.²²

Building a solar farm is a complex process that will require significant time and investment by council. Councils must consider an appropriate site for the installation, in-house expertise and project management capacity, external advice, and construction and retail contracts. A retailer will also be required to buy and sell energy on behalf of the council. Building a solar farm also carries a higher level of risk than other renewable energy options, and thus, should be carefully considered.



²² City of Newcastle (2020), 'Solar farm powering City operations and revenue' <https://newcastle.nsw.gov.au/about-us/news-and-updates/latest-news/solar-farm-powering-city-operations-and-revenue>

Case Studies

Sunshine Coast Solar Farm

Sunshine Coast Council (QLD) is the first local government in Australia to offset all electricity consumed by its facilities and operations, using renewable electricity generated by its own utility-scale solar farm. The 15MW Sunshine Coast Solar Farm is providing an annual output that is sufficient to meet Council's entire electricity demand, including administration buildings, aquatic centres and sporting facilities, libraries and other public buildings. The facility is expected to deliver Council net savings of over \$22 million over a 30-year period.

Newcastle Summer Hill Solar Farm

The City of Newcastle's (NSW) 5MW solar farm has been operating successfully since 2019. The solar farm is located at the Summerhill Waste Management Centre on a capped landfill site. Covering an area of around 5 football fields, the solar farm's 14,500 solar PVs are producing electricity equivalent to the annual power needs of more than 1,300 Newcastle households. The project is expected to save ratepayers around \$9 million, after costs, over its 25-year lifespan. It also ensures City of Newcastle is meeting 100 percent of its power supply through renewable energy sources, as Council utilises their solar farm in conjunction with a power purchase contract that sources electricity from the state's largest windfarm.²³ The site has exceeded expectations already, generating more than \$420,000 in revenue in its first 6 months.²⁴

Further Information



There are plenty of resources available for councils who are interested in learning more about renewable energy solutions. You can find many of these resources on the [Resource Library](#), which anybody can access.

Accessing the collective wisdom of Australian local governments is one of the best ways of finding the right solutions for your council. Cities Power Partnership member councils can put their questions to Australia's largest network of local government sustainability professionals by accessing [Council Connect](#).

²³ City of Newcastle (2021), 'Solar farm anniversary shines a light on City's power pledge', <https://newcastle.nsw.gov.au/about-us/news-and-updates/latest-news/solar-farm-anniversary-shines-a-light-on-city-s-po>

²⁴ City of Newcastle (2020), 'Solar farm powering City operations and revenue' <https://newcastle.nsw.gov.au/about-us/news-and-updates/latest-news/solar-farm-powering-city-operations-and-revenue>

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