

Victoria Park Precinct Renewable Energy Project

COUNCIL NAME

Dubbo City Council

WEB ADDRESS

dubbo.nsw.gov.au

SIZE

3,425 square kilometres

POPULATION

40,822

Overview

Dubbo City Council's Victoria Park Renewable Energy Project improved energy efficiency and harnessed the power of the sun to increase clean energy use, decrease carbon emissions and reduce operating costs. The project incorporated four major Council community facilities to assist in encouraging community uptake. These included:

- Western Plains Cultural Centre (WPCC) – 70kW solar system installed;
- Energy Smart Family Daycare Centre – lighting retrofits, insulation, skylight and a 4.2kW solar system;
- Dubbo Aquatic and Leisure Centre – solar pool heating; and
- Dubbo Regional Theatre and Convention Centre (DRTCC) – 4.0kW solar system.

These improvements allowed Council to reduce the greenhouse gas emissions it produced from its operations and allowed Council to communicate the benefits of renewable energy to the region through a number of coordinated approaches including signage, the Dubbo Sustainable City Expo, workshops, fact sheets, Council and school engagement, website, traditional media and social media.

Rationale

The Bathurst, Orange and Dubbo Alliance of Councils (BOD) received grant funding from the NSW Environmental Trust Urban Sustainability Program to address priority sustainability issues including energy use, stormwater harvesting and biodiversity. These priorities were identified in the BOD Alliance Environmental Sustainability Action Plan (2007) and developed into the 'Inspiring and Integrating Change' Urban Sustainability Project.

The Victoria Park Precinct Renewable Energy Project was Dubbo City Council's component of this three year project and was designed to address one of the key priority sustainability areas – energy. Dubbo City Council had already been working on improving its energy efficiency for many years. Council recognised that Dubbo had an ideal position and climate to harness energy from the sun and therefore a renewable energy project which identified and confirmed suitable technologies for the area would assist to increase the uptake of renewable energy. Due to past energy efficiency efforts, Dubbo City Council was also in a position to build on and share its learnings with the other Councils in the BOD Alliance and also the other smaller councils within the region. At the time of completion, the project included one of the largest solar installations in the State. By the end of the project period, Dubbo was the solar power capital of Australia with more than one-quarter of Dubbo homes and businesses installing small scale solar systems.

Objectives

The Victoria Park Precinct Renewable Energy Project specifically aimed to:

- Improve the sustainability performance of Dubbo City council and the local community through the increased use of renewable energy options; and
- Utilise community engagement and capacity-building to foster behavioural change and achieve longer-term outcomes.



Implementation

To better inform and guide the Project, a Renewable Energy Feasibility Study was completed using energy audits of all Council's facilities within the Victoria Park Precinct. This included workshops with Council's Managers and Directors to review all renewable energy and energy efficiency possibilities and barriers for the facilities. The study confirmed that photovoltaic technology was the most feasible for the area, and together with other efficiency opportunities it was identified that significant savings could be made. The WPCC was chosen for the 70kW photovoltaic system because it was one of the highest users of energy, had substantial roof space and was capable of achieving significant, meaningful energy savings.

In engaging the community, several resources were utilised including an energy dashboard to demonstrate the system's performance, [social media](#) and educational signs explaining the benefits of the initiatives which were installed before the LG Conference in 2012 to promote the project to other NSW councils. The development of the community engagement plan allowed maximum exposure of the project through regular media coverage of the project components. This included the annual Dubbo Sustainable City Expo which not only focused on demonstrating the on-ground works but also engaged schools through workshops. Residents and businesses using the Park's facilities were informed through factsheets and direct mail.

Budget and Timeline:

- Renewable Energy Feasibility Study –March 2011 (\$70,000)
- WPCC 70kW solar installation and DRTCC 4kW –February 2012 (\$290,000)
- Family Day Care energy efficiency and 4kW solar –May 2012 (\$16,950)
- Dubbo Aquatic and Leisure Centre pool heating –February 2012 (\$17,000)
- Sustainable City Expo and workshops – September 2012 (\$10,000)
- Local Government toolkit – November 2012 (\$20,000)
- Wambangalang Education Centre resources – December 2012 (\$2,500)
- Central West Distributed Energy Plan – December 2012 (\$180,000)
- Signage - October 2012 (\$6,500)

The project produced significant savings and reductions in greenhouse gas emissions and also complemented the Environmental Sustainability Plan, Dubbo ALIVE and Energy Strategy. It also contributed to key community outcomes in the Dubbo Community Strategic Plan 2036, including:

- The community being supported in becoming environmentally sustainable (2.1.3); and
- The environmental impact from Council's activities and operations are reduced (1.1.4)

Achievements

The project has not only saved 100 tonnes of CO₂ in the first year of operation and reduced the energy consumed by Council; it has also allowed Dubbo City Council and the community to become more aware of the benefits of renewable energy. As of September 2012, Dubbo had a total of 3,482 solar grid installations which ranked first in NSW and 10th in Australia for the total number of solar grid installations. The Clean Energy Council calculated that this resulted in Dubbo having the highest percentage of households with solar in Australia. The solar installations through the project encouraged other areas of Council to take up renewable energy with a total 100kW now installed across Council with additional systems planned for new facilities.

The precinct has also reduced the cost of energy to Council with Council's energy usage reducing by 14% in the first year and maintaining this reduction throughout the project. These savings have allowed funding to be allocated to further energy efficiency improvements across Council.

Council achieved the objectives through the monitoring of emissions and savings via the online link to the Western Plains Cultural Centre (WPCC) solar system installation and use of E21 and Planet Footprint for monitoring energy usage.

REFERENCES

dubbo.nsw.gov.au/CouncilServices/renewable-energy

Communication of objectives to the community was achieved through 43 activities to raise awareness of renewable energy options. Of particular note, over 200 families were engaged via the Family Daycare Centre and were kept up-to-date with the project and also saw the improvements to the facility as they were implemented. Other activities included newspaper articles, websites, expos and brochures, reaching approximately 33,700 people through newspaper articles, 8,800 through other communications and events and 15,500 via an exhibition at the annual 2012 Dubbo Show. Ongoing school engagement will be achieved through the resources provided to the Wambangalang Environmental Education Centre.

Challenges/Opportunities

Council learnt that to ensure effective project implementation, ongoing communication across multiple stakeholders was vital. A detailed tender brief and outline was developed with the consultant to ensure that the goals and objectives were clear (including outputs, target audience, key messages, project timelines and assumptions). There were significant time delays with the Victoria Park Precinct Renewable Energy Project including during the creation of tender documents, advertising, reviewing and awarding the tender.

Council's energy webpage allows the public to continue to see the benefits of renewable energy and also see the impact of the WPCC's 70kW solar energy system. The financial benefits and the Feasibility Study have identified that photovoltaic systems are an excellent way for Council to reduce the amount of greenhouse gases it produces in its operations, with wind and other forms being unsuitable or less than ideal.

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