

Sustainable Energy for a Sustainable Future

COUNCIL NAME

Shoalhaven City Council

WEB ADDRESS

shoalhaven.nsw.gov.au

SIZE

4,567 square km

POPULATION

104,371

Overview

Shoalhaven City Council adopted its Sustainable Energy Policy in May 2019 with an aim to achieve net-zero greenhouse gas emissions by 2050. Despite a major focus on bushfire recovery in 2020, a wide range of sustainable energy projects were completed and commenced. These include trialling 3 fully electric vehicles in the council fleet, installation of 388 kW of solar PV across 10 sites, commencement of a revolving energy fund, replacement of 4,200 street lights with energy saving LEDs and support for Repower Shoalhaven community energy group's solar farm development and social access solar garden.

Background

Shoalhaven City Council is a large user of electricity (~35 GWh/pa) which is required to power its corporate and community assets including swimming pools, admin centres, water utilities and street lighting. Much of this electricity is sourced from coal or gas-fired power stations. This comes at increasingly higher costs every year and results in greenhouse gas emissions.

Council plays an important leadership role in modelling best practice energy management to the Shoalhaven community. In May 2019 Shoalhaven Council prepared and adopted its inaugural Sustainable Energy Policy to ensure access to affordable, reliable and sustainable energy. The Policy intends to increase the use of renewable energy and improve energy efficiency to create a more sustainable community, employment opportunities and resilience to climate change. The Policy aims to achieve net-zero greenhouse gas emissions by 2050, with interim targets of 25% by 2025 and 50% by 2030, compared to 2015 levels. Under the Policy, Council is seeking opportunities to source or generate electricity supply for Council's operations from renewable energy sources, with an interim target of 25% renewables by 2023 and eventually 50% from renewable sources by 2030.

Council supports this Policy by implementing the Sustainable Energy Strategy. It identifies priority initiatives to achieve the following objectives:

- *Cleaner Energy*: Transition to cleaner, more sustainable and more affordable energy sources.
- *Less Energy*: Reduce the energy requirement for Council by maximising energy efficiency in all aspects of Council's operations
- *Measuring and Monitoring Energy*: Ensure systems, processes and expertise are in place to measure, monitor and manage energy consumption and renewable electricity generation effectively
- *Demonstration of Leadership*: Council will 'lead by doing' to encourage the local community and businesses to also transition to a more resilient, reliable and renewable energy future.

Implementation

Implementation of Council's Sustainable Energy Policy and Strategy has commenced with numerous clean energy projects recently completed, including:

- Installation of a 25 kW and 22.5 kW solar PV system at Bamarang Water Treatment Plant and Berry Wastewater Treatment Plant respectively. A 20 kWh storage battery was also installed at the Berry plant to trial how batteries can be integrated into existing wastewater treatment control systems. An innovation at the Berry plant was the use of a disused concrete channel island to ground mount 50 solar panels due to lack of roof space.
- Installation of an 81 kW solar PV system on the rooftop of the Shoalhaven Entertainment Centre in 2019. Council currently has over 300 kW of solar PV capacity on its assets with an

additional 260 kW installed or currently underway in 2020 at Nowra Library, Bomaderry Works Depot, Flat Rock WTP, and 4 other wastewater treatment plants.

- Adoption of the 'Electric Vehicle (EV) Charging Stations on Public Land' policy.
- Inclusion of three fully electric Hyundai Kona cars in Council's fleet as part of a trial of EVs and charging infrastructure.
- Creation of an internal Revolving Energy Fund with seed funding of \$230,000 to finance energy efficiency and renewable energy projects into the future. The Fund has enabled LED lighting upgrades to take place at the Nowra Library, as well as some solar PV installs on Council buildings.
- Replacement of 4,231 residential street lights with energy savings LED lamps in 2020. This project was part-funded by the NSW Government, allowing Council to achieve a feasible payback period of 5 years for its \$1.2M investment.
- Partnering with a range of stakeholders, including Repower Shoalhaven (a local community renewable energy group), on the Social Access Solar Garden. This project is now being further progressed by Repower Shoalhaven to establish a 4 MW community-owned solar farm in the Shoalhaven on Council-owned land.
- Membership in the national Cities Power Partnership (CPP) program to implement five climate change pledges made by Council.

Outcomes

After a full year in operation, the treatment plant solar systems at Bamarang and Berry have resulted in a 17% reduction in electricity use from the grid. This equates to a financial savings of around \$10,500 and 30 tonnes CO₂-e saved over the past year. The accelerated street lighting upgrade will save around \$230,000 per year in energy costs and save 1,369 tonnes of CO₂-e per year (including Scope 2 and 3 emissions). Once upgraded, around 55% of Council's street lights will be LEDs.

Shoalhaven Council's Energy Management team prepare an *Annual Electricity Review* to present an analysis of Council's electricity consumption by functional area, document electricity savings measures already implemented, and identify potential cost-effective measures for future energy efficiency investment. *Energy Matters* project summaries keep staff and Councillors up-to-date on a regular basis on the progress and outcomes of completed projects.

Key Learnings

For Shoalhaven Council to achieve its ambitious renewable energy and net-zero emissions targets there must be a planned approach taken to assess the capacity and cost-effectiveness of actions in the short, medium and long-term. Council's approved Sustainable Energy Strategy provides this roadmap. Council has learned that if the of sourcing 50% of its electricity from renewables is to be achieved, then purchasing renewable energy must be a part of the solution. Shoalhaven Council is now embarking on investigations into securing long-term renewable retail Power Purchase Agreements for the supply of clean energy for its operations.

Although Council has limited control and influence over many of the community emission sources such as household electricity and private vehicle usage, it is looking at new ways to assist the broader community to implement energy efficiency and renewable energy projects and demonstrate leadership in climate change mitigation.

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**This project was the 2020 winner of the Towards Net Zero Emissions Award
at the LGNSW Excellence in the Environment Awards**