

SOLAR FOR MULTI- AND SINGLE-FAMILY HOUSING IN SYDNEY, AUSTRALIA

Project Summary

USDN partnered with [Pingala](#), an Australian nonprofit organization, to facilitate rooftop solar installations on two multi-family social housing buildings and several single-family homes in the Sydney metro area. This project engaged housing providers, operators, residents, and governmental and nonprofit agencies to install over 100 kW of solar power benefitting communities that otherwise would not have access to clean energy.

Key Partners

For this project, we partnered with Pingala Community Energy, a non-profit organization whose mission is to create meaningful and long lasting community engagement in renewable energy. After reviewing 28 potential sites submitted by Sydney-area community housing providers, Pingala identified two multi-family buildings for solar installations: Roscoe Street, an apartment block managed by Independent Community Living Australia (ICLA), a provider of short term accommodation and other social services for vulnerable people; and the Emoh Rou Co-operative, an independent housing co-operative that provides long term accommodation to low income residents who are also co-operative members. Pingala also worked with Glebe Youth Service, a neighborhood-based nonprofit, to identify households for single-family home rooftop solar systems.

Results

- The project at Roscoe Street saw 25.65 kW of rooftop solar installed, directing energy to 6 apartment units via the solar splitting device SolShare. This system divides a rooftop solar array to individual meters based on a percentage allocation and real-time monitoring data. The housing provider is responsible for electricity bills. Cost savings will be passed onto residents in the form of living space improvements.
- The project at Emoh Rou saw 36 kW of solar installed, directing energy to 12 apartment units via a SolShare device. This project is estimated to create \$160 (US) in cost savings annually for each unit.
- 51.4 kW of power was installed across 10 single-family homes in the Glebe neighborhood. Each family will see an average of around \$617 per year in energy cost savings.



Community Impacts

At Emoh Rou, the tenants benefit through direct savings on their electricity bill. Some cooperation between tenants will be needed to coordinate the distribution of electricity since the solar system is shared among residents. It is estimated that the solar system will produce more energy than the tenants will use, so they could install a battery storage system in the future to further increase cost savings. At Roscoe Street, where the housing provider covers electric costs, the electricity savings by the housing provider will be reinvested into improvements such as better appliances, stronger services, and other upgrades.

Lessons Learned

In this project, it was critical to engage directly with housing providers and operators early to identify areas of need and potential site challenges. This enabled the partners to set reasonable expectations for residents. Additionally, the need to install smart meters on a very short timeline increased costs significantly. Finally, Pingala learned that much of the affordable housing stock in the region is older and requires significant repairs, particularly to roofs, in order to accommodate solar. Some units underwent repairs, but other sites had to be excluded from the project. To address site-specific challenges, it is best to bring a solar expert to the site to provide an assessment as soon as possible.

Influencing Change

The successful installations at Emoh Rou and Roscoe St provided the confidence and informational background needed for project partners to move forward with the additional installations on single-family homes. The New South Wales state agency provided consent as a landlord for the first two projects, and the success of these installations encouraged them to consent to installations on additional properties they managed. For the single-family home solar installations, the youth services organization was better able to engage the families they worked with thanks to their knowledge of the process and benefits involved in the initial installations. Overall, the initial success of this project provided the momentum needed for that success to be replicated.

KEY METRICS



Solar Installed - 113.2 kW across 12 sites



Electrical Cost Reduction - Estimated \$437 (US) average per year per tenant/household



Carbon Offset - 16.2 metric tons per year



Jobs Impacted - 8 positions involved, including project management, communications, installers, and other operational positions

About USDN

Established in 2008, USDN empowers cities, counties and towns to tackle their most urgent sustainability and climate challenges. USDN brings local government sustainability practitioners together to learn, collaborate, and accelerate the work of local sustainability. By equipping them with the knowledge, resources, and partnerships they need to succeed, USDN helps advance change locally in member communities as well as across the field of practice. The aggregate impact and influence of our collective work makes an equitable, resilient, and sustainable society more attainable.

If you would like to connect to discuss and learn more about our vision and efforts in the years ahead, please reach out to support@usdn.org.