Queensland Communities in Transition

Police Citizens Youth Club, Rockhampton – energy efficiency cuts club's bottom line

Australia is currently facing a transformation of its energy markets from electricity generated by fossil fuels to more renewable sources. Many not-for-profit organisations do not have the required capital to invest in energy saving technology and are finding the rising cost of electricity a growing liability.

This is particularly the case for PCYC Queensland's 54 branches which operate for long hours day and night in partnership with the Queensland Police Service (QPS) to help meet a wide range of local community needs. Initiatives focus around three pillars: youth development, crime prevention and community engagement. Around 95% of its clubs are in low socio-economic areas, with 60% in the top fifty high needs areas of Queensland.

The Rockhampton PCYC was built in 1977 on the banks of the Fitzroy River. It provides not only an extensive range of sporting activities and child care services but also a wide range of crucial youth support programs and services and is home to the local Men's Shed. Running activities all hours of the day in the face of the fast-rising energy costs, floods and aging infrastructure has strained the Club's bottom line. Efforts by the Club to continually identify efficiency opportunities is having a positive impact on the Club's operating costs and helping to ensure the Rockhampton PCYC can continue to support some of the community's most vulnerable.

"Running a branch of a not for profit organisation is hard at the best of times: trying to make the most out of an older building and activities and services; ensuring wages and running costs are paid; as well as providing programs for young people at risk in the area.
By going through this process, we were able to identify cost cutting measures. We also incurred some expenses but only on technology that will save on overheads in the long run. Its great see less overheads allowing us to increase funding and opportunities for our young people and the community of Rockhampton."

Sergeant Greg Jones, Branch manager of Rockhampton PCYC

HIGHLIGHTS

- 26% reduction in energy consumption and costs
- 44% reduction in greenhouse gas emissions
- Installation of a 27kW roof top solar system
- Installation of an energy efficient industrial ceiling fan
- Replacement of inefficient gymnasium and office lighting with LEDs
- ecoBiz Energy Star partnership

PCYC

Energy efficiency

By combining $722,000 of their own funds with a $1.4 million grant from the federal government, PCYC Queensland has been able to undertake energy audits and implement energy efficiency measures across all their clubs.

Renewable energy generation

PCYC Queensland has installed more than 10,000 solar panels and multiple battery banks (Tesla) at several clubs. Further installations are planned for an additional 40 clubs in the future.

With many of the Rockhampton PCYC's youth programs operating out of the Club during the day it made sense to install a 27kW roof top solar PV system (Gem Energy). In addition to reducing grid electricity consumption during the day, the power generated over the weekend and exported to the grid offsets the club's electricity bill by an additional 10%.

Lighting

In addition to converting 36W fluorescent tubes to 23W LEDs throughout the Club, inefficient high bay 400W metal halides in the gymnasium have been replaced with 230W LEDs. Savings not only include less power consumption but also a reduction in maintenance costs associated with replacing the globes.

PCYC Queensland has install energy efficient lighting across all its clubs reducing its greenhouse gas emissions by 2,000 tonnes of CO_{2e-}.

Space cooling

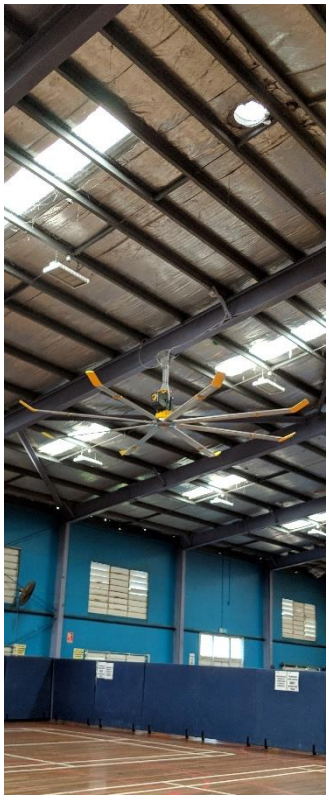
In the tropics, space cooling is a significant expense. Rockhampton PCYC has gradually replaced it's 14 window box air conditioning units with energy efficient split systems. Rooms with air conditioners also have ceiling fans to circulate the cooled air.

Large, open spaces such as gymnasiums are particularly problematic. Initiatives by the club have included roof insulation, wall louvers along the Club's eastern wall to capture sea breezes and whirly-birds to expel rising hot air.

A large roof mounted industrial fan (Big Ass Fan) was also installed in the last 12 months which reduced the Club's reliance on expensive and largely ineffective industrial pedestal fans. Big Ass Fans have energy-efficient motors and their airfoil design, inspired by airplane wings, move large volumes of air quietly and efficiently.

Cooling costs in the Club's function area have also been reduced through the use of concertina walls that enable a smaller area to be zoned off and cooled.

Fans allow the thermostat setting on air conditioners to be increased by several degrees without a decrease in comfort. Setting the temperature just 1°C higher reduces the power it uses by up to 10%. [1]



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1. www.ergon.com.au/retail/residential/homeenergy-tips/appliances/air-conditioners