

Cabarita Swimming Centre



The City of Canada Bay, located in Sydney's inner west, embarked on a mission to reduce its carbon footprint and transition to renewable energy sources. The Council has taken a number of steps to eliminate gas usage at Cabarita Pool, focusing on the installation of a heat pump and a shift to 100% renewable electricity.

The City of Canada Bay is committed to climate action and environmental sustainability, having declared a climate emergency in 2019 and joined the Cities Race to Zero in 2021.

Cabarita Pool, which is one of two swimming centres in the local government area, historically relied on gas for pool heating and showers, constituting 80% to 90% of the Council's entire annual gas consumption. The legacy pool heating system, a fossil gas boiler, nearing end-of-life based on age and condition.

Heat pump solution

In 2023, the Council engaged Sunbather to install a Rheem air-to-water heat pump installation at Cabarita Pool and enlisted Inspire Energy to set up a 42 kW rooftop solar system. The initiative aligns with the Council's emissions reduction action plan, aiming for net zero emissions by 2030.

AQUATIC CENTRE

HEAT PUMPS

Project summary

Location: Cabarita, Sydney, Australia

Facility type: Aquatic centre

Heat pump supplier: Rheem Australia

Installer: Sunbather

Equipment replaced: gas boilers

New equipment: Rheem RTHP540 540 kW heat pump

Water temperature set point: 27 °C

Pool opening months: September to April

Pool cover utilised: Yes

Peak heating demand: 279 kW using the methodology from ISO/TR 12596:1995 Swimming pool heating systems

Total project cost: A\$200,000 for the heat pump, plus some additional costs for site preparation and security fencing for the heat pump.

A Rheem RTHP540 heat pump was selected for the site, incurring approximately \$200,000 in costs with additional costs for site pre-work including electrical and plumbing connections. The feasibility work included replacing domestic hot water with heat pumps in the future.

Rather than a direct payback, the business case emphasised the value of the energy efficiency, equipment reliability and the imperative to meet net zero commitments.



Unloading the Rheem RTHP540 heat pump system for installation.

Project outcomes

While ongoing evaluations are being conducted, the project has significantly reduced greenhouse gas emissions at Cabarita Swimming Centre. The heating system now relies on a combination of 42 kW onsite solar and 100% renewable grid electricity through the Council's contract with its supplier Zen Energy.

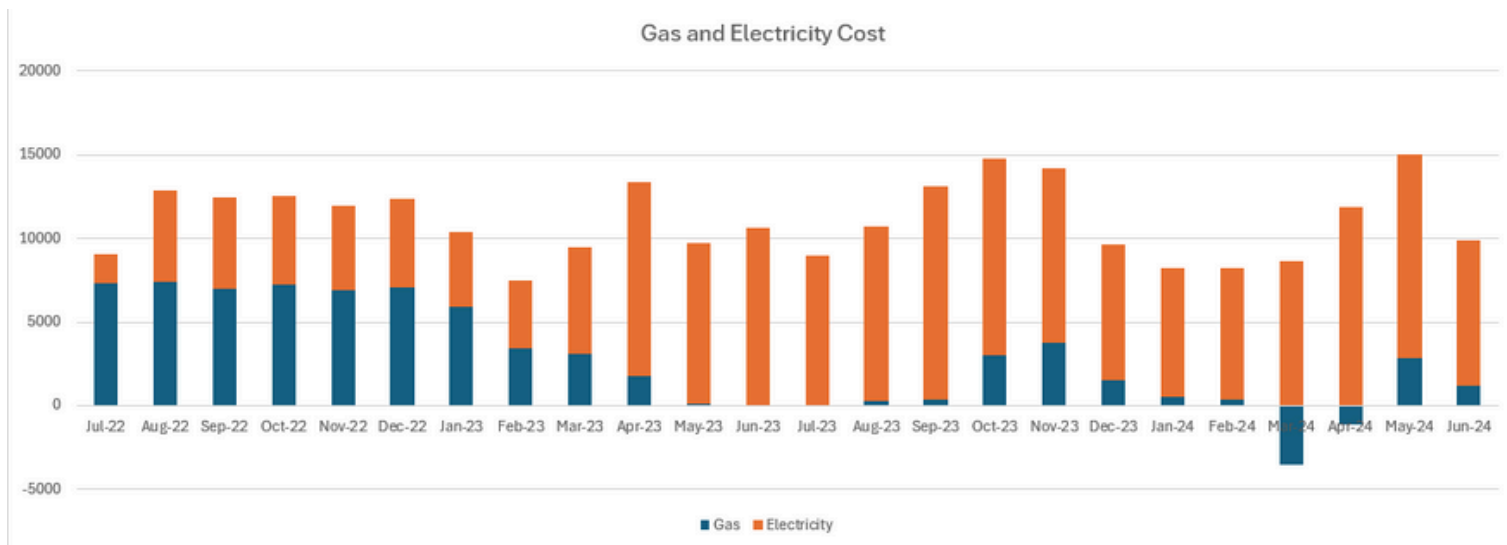
The project has generated positive publicity for the Council, with social media posts gaining significant reach. The Council's experience was shared with other local government officers and industry members during a tour and webinars organised by the Australian Alliance for Energy Productivity.

Project observations, findings and challenges

- Internal champions played a crucial role in maintaining project priority.
- A simpler Energy Savings Certificates process would have helped secure the certificates.
- Site pre-work facilitated the seamless installation of the heat pump while the pool was in operation.
- A learning curve was experienced in understanding heat pumps, identifying suitable consultants and installers.

In conclusion, the City of Canada Bay's journey towards a sustainable, gas-free Cabarita Swimming Centre showcases the positive impact of local initiatives in the race to achieve zero emissions.

The Council's commitment, technological upgrades, and community engagement provide a blueprint for others seeking similar transformations.



A graph showing energy expenditure (gas versus electricity) at the pool before and after installation.