

COBURG LEISURE CENTRE

MORELAND LEADING THE WAY IN ENERGY EFFICIENCY



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KEY ACTIONS

- Installation of double glazed windows
- Pool blankets
- Previous upgrades included a new building management system (BMS) and push button delay switches for the showers.



The Coburg Leisure Centre was opened in 1993 and is currently managed by the YMCA. The Leisure Centre includes three indoor pools, a spa / sauna, gym, and childcare facilities. Due to its high energy use, the Coburg Leisure Centre has been a target building for energy efficiency actions

ENERGY EFFICIENCY UPGRADES

A common issue with indoor pool halls is condensation and associated heat loss through the windows. This was the case at Coburg Leisure Centre, where the indoor temperature is maintained at approximately 30 degrees all year round. To combat this, Polyvinyl chloride (PVC) framed **DOUBLE GLAZING** units were fitted onto the exterior of the existing window frame. The existing glass remains, giving three panes of glass and two air gaps in the final window. The PVC units are 6.38/12/4- a 6.38mm clear laminated glass, 12mm air gap and 4mm clear toughened glass. Although not true 'triple glazing', the final result performs similar

to a triple glazed unit with a lower level of heat loss due to two air gaps and three panes of glass. The final U-value (measure of heat loss) of the new system is difficult to measure but represents at least a 78% improvement on the existing single glazed aluminium glazing system.

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Thermal **POOL BLANKETS** have been installed on both the 'Lap Pool' and the 'Learner's Pool' at Coburg Leisure Centre. The blankets are housed under a bench made of marine grade stainless steel framing and decking made of recycled plastic and wood by-product that also acts as a useful seat for pool patrons.

An automatic pool blanket winch system has been installed to pull the blankets on and off the pool, and helps make using the blankets safer and easier for handling by staff.

Council expects the blankets to





WORKING WITH STAFF TO DEVELOP A SIMPLE USER MANUAL PLUS TRAINING IN HOW TO USE THE POOL BLANKETS IS A KEY TO SUCCESS.

POOL BLANKETS COBURG ▲►

reduce energy consumption by 729 GJ and \$5,000 in costs per year, with an annual greenhouse gas reduction of 41 tonnes. The expected reduction in water consumption through reduced evaporation is estimated to be up to 100 kilolitres per year.

LESSONS LEARNT

The initial proposal considered retrofitting an internal polycarbonate pane installed to turn the existing single glazed into a double glazed window; however this was not feasible as condensation built up between the two layers. By installing the double glazing to the external facade the moisture problem was avoided, there was minimal disruption to pool patrons, and the final result (with three sheets of glass and two air gaps) will perform better than

double glazing. Retrofitting double glazed units to existing frames is more cost effective than completely replacing the frames, and has a better energy performance result as well. It is an innovative approach, but one that has worked well and is relevant to a large number of commercial buildings.

Other complexities were fairly standard for retrofit projects; none of the window frames were 'square' due to bowing during installation of the original windows. This meant that the new units had to be exactly measured and tailored during manufacture.

Access equipment needed

to be carefully selected due to uneven surfaces on the ground outside and scaffolding was required for a lot of sections. Also, the day chosen for the installation of the larger window sections was windy which proved a challenge for the contractors installing units upwards of 100kgs.

Insulative pool blankets are applicable to all heating swimming pools, regardless of the scale, but are particularly attractive to larger municipal facilities with larger heating bills!



Australian Government



Moreland City Council

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