

Case Study

Salvation Army – Morley Corps and Community Centre

Organisation Profile

The Morley Salvation Army Centre was opened in 1974 and 1999 a multipurpose building was built to better facilitate the community support services provided. These community support services include a playgroup, whose aim is to help both parent and child to have fun and make new friends in a relaxed situation where the child's natural curiosity is stimulated. Mixing with other children will help children learn to share, co-operate and socialise.

The Morley Centre also provides a service specific to women, with a focus on friendship, education, fundraising activities and worship. .

Energy and Greenhouse Audit Summary

The Energy and Greenhouse Audit was conducted on the 7th January 2011. The auditors analysed the electricity, gas and water consumption of the site, determined key behaviours regarding energy and water usage through interviews with staff and critically assessed the property's energy and water efficiency.

There are a number of key energy and water structural issues with the Salvation Army Morley Corps:

- Large sections in most buildings on the property had no insulation at all;
- Orientation and building materials of the thrift store resulted in high energy use;
- Large window area resulted in significant heat exchange between internal and external environments;
- Fixed and single glazed windows in multipurpose hall;
- A large quantity of halogen lights;
- Toilet and tap leaks

The behavioural issues at Salvation Army Morley Corps included:

- Leaving lighting on;
- Leaving the air-conditioning on and setting at an inappropriate temperature;
- Multiple fridges were in use.

Recommendations

The following recommendations were provided to the management at the Salvation Army Morley Corps. They include both behavioural recommendations and potential retrofitting.

1	Install insulation in to the roof space of the former home and other areas where it is lacking or incomplete.
2	Consider painting the tin roof and walls with insulating type paint.
3	Consider lining the roof and walls and roller doors with Anticon.
4	Consider removing several sections of glass both ends of the fixed windows in the Multipurpose Hall and replacing them with openable windows or louvres which can be operated from ground level to allow for passive cooling.
5	Consider retrofitting double glazing such as core flute to large expanses of glass in reception, Worship Hall and the foyer to the Worship Hall.
6	Consider fitting curtains with loose fitting lining and pelmets to all windows.
7	For administration areas, turn off all air-conditioners 40 minutes before the end of the work day (offices should be able to maintain tolerable temperatures for this time).
8	Identify appliances including air-conditioning units that do not need to be on and ensure they are turned off.
9	Consider operating air-conditioners on timers to reduce energy use.
10	Continue to use fans as a cooling option in conjunction with air-conditioners.
11	At failure of the next halogen downlight transformer, begin trialling substitute LED lamps.
12	Ensure that there is a 200 mm air gap around halogen downlights.
13	Turn off halogen downlights if leaving the room for more than a few minutes.
14	Avoid using halogen downlights wherever possible for general lighting.
15	Adjust the lighting timer control twice yearly to prevent the lights being on when it is not dark.
16	Consider adding reminding signs close to light switches throughout the building.
17	Turn all computer equipment off at the end of each working day.
18	Enable power saving functions on computers.
19	Turn all equipment off at wall overnight (consider purchasing foot switches so people don't have to crawl under their desks).
20	The photocopier should not be left in the "ready" state overnight and the machine should be set so that it falls into sleep mode after 20 minutes of inactivity (if not already switched to this mode).
21	Turn off fridges and freezers that have little or no use.
22	Ensure that there is high ventilation around the fridges and freezers.
23	Monitor and regularly defrost fridges and freezers regularly.
24	Inspect fridge and freezer seals and replace worn seals.
25	Ensure all gas pilot lights are turned off in the summer.
26	Continue to use the heaters instead of electricity heating.
27	Insulate all hot water pipes to reduce heat loss and energy wastage.
28	Should the boiling water system require replacement, consider a smaller sized unit.
29	Ensure that the systems thermostat is set between 60oC – 70oC.
30	Insulate the pipes which are warm to touch.
31	Repair the water boiler, decommission it, or replace with a smaller machine that can be easily turned off near the end of each business day.
32	Repair all leaks in toilets.

33	Repair all leaks in hand basin taps.
34	As the opportunity arises, replace these toilets cisterns and pans with the most water wise ones available.
35	Adjust the float valves of all toilets to ensure that the cisterns are not being overfilled.
36	Check that timers are set properly and deliver appropriate quantities to designated areas.
37	Increase the area of the adjacent mulched gardens.
38	Ensure that the lawn is not mowed too short – especially in summer.
39	Repair or replace the broken piping and sprinkler head.

Retrofits

Window Replacement

The multipurpose hall is used for playgroup, women’s group, holiday programs and worship. There is significant heat build-up during warmer months as a result of limited airflow through the building. This results in high energy use in an attempt to maintain the building at a comfortable temperature. The large surface area of the windows also means that there is high energy use during cooler months.

The retrofit has replaced the non-moveable single glazed windows with moveable double glazed windows. Because of the orientation of the building, it is ideally situated to take advantage of afternoon summer breezes. By opening the windows, the breeze will remove the built-up hot air and allow for air to be circulated through the building. The double glazing means that when there is no breeze, the air-conditioning system does not need to work as hard to maintain a comfortable temperature; as will be the case in winter.

Summary

The Salvation Army Morley Corps provides an essential service to the local community. It is a centre of worship but also a space where women, mothers and children can come to learn new skills and receive support. The Morley site is large, with multiple buildings, all of which need some level of retrofit work to improve their energy and water efficiency. However, the multipurpose building is the centre of the site, where most community work is carried out, resulting in high energy use in that building. However, retrofitting this building is not only important to reduce energy use, improving the comfort and experience of visitors is equally important.