



Family &
Community
Services

Improving energy & water efficiency in NSW social housing



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NSW Land & Housing Corporation

- Part of Family and Community Services cluster
- Own and manage 130,000 dwellings and other assets within the NSW Government's social housing portfolio valued at over \$45 billion
- Our mission is to “Enable vulnerable people to participate fully in NSW social and economic life and build stronger, more sustainable and inclusive communities”

Diverse property portfolio



Improving thermal comfort – ceiling insulation

- Retrofitted R4 ceiling insulation in over 20,000 properties since 2008
- Prioritised properties in cold climatic zones (4, 6, 7 & 8) built prior to 2000
- Tenants report improved thermal comfort but difficult to evaluate energy savings



Draught proofing

- 707 dwellings in cold climate areas draught proofed in 2012 - external doors & timber windows
- 61% of tenants agreed or strongly agreed that their home was more comfortable
- Scientific testing conducted by UOW revealed an average 12% reduction of air permeability



Reducing energy costs - Hot water systems

- Approx 5,200 electric storage hot water systems replaced with solar and heat pump, but program ceased in 2013 due to high maintenance costs (frost protection, limited warranties).
- Decommissioned 43 inefficient centralised gas hot water systems in residential unit buildings and retrofitting 344 instantaneous gas systems, saving tenants approximately \$360 per year.

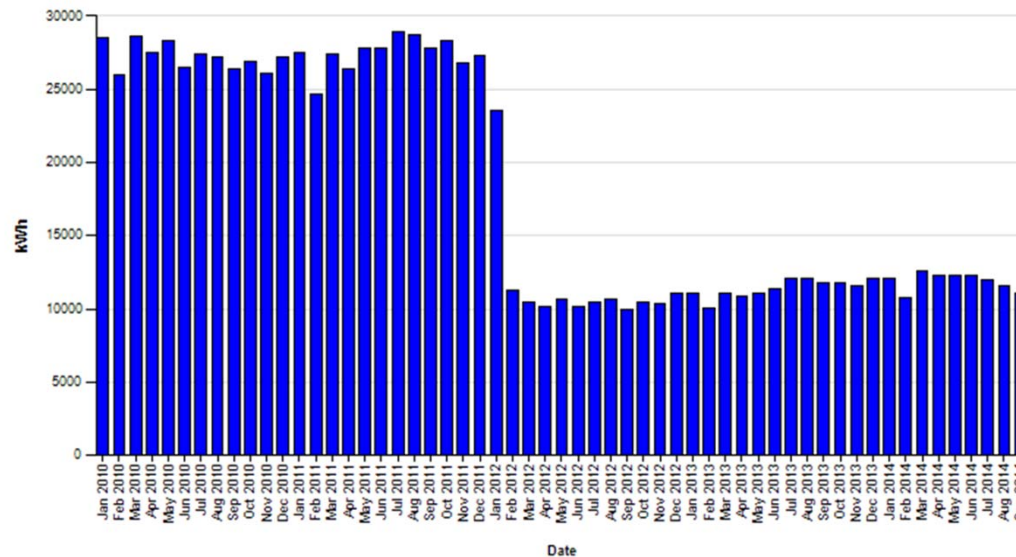
Solar photovoltaic (PV) systems

- 1kW systems installed on 180 cottages through the Blacktown Solar Cities program in 2008/09
- Audits of 92 systems in November 2016 found 7 that were not operational



LED lighting – Common area

- Over 13,500 LED lights retrofitted in 236 residential buildings between 2011 and 2015
- Approx \$460,000 per annum in energy bills
- Benefits include longer lamp life, extended warranties, replaceable components



**308 unit building –
62% reduction in
energy usage &
3.1 year payback**

Property assessment surveys

- Asset performance monitored by a condition assessment of the entire portfolio over a 3 year period - amenity, condition, component failures, safety & structural integrity
- Environmental issues assessed include:
 - Ceiling insulation
 - Single/dual flush toilet
 - Fixed heating & cooling devices
 - Hot water system
 - Window shutters/shading
 - Doors & window gaps
 - Rainwater tanks
 - Natural gas meter
 - North roof size & sun access
 - Car park ventilation systems
 - Lighting control systems

Rainwater tanks

- Rainwater tanks installed in over 2,900 new dwellings to comply with BASIX with majority connected to toilets & washing machines
- Concerns about ongoing maintenance costs – replacing pump & diversion devices and cleaning first flush, filters & gutters



Monitoring high water usage

- Over \$46 million a year in water usage charges
- LAHC monitors high water usage properties and requests water leak investigations when tenants have not reported water leaks
- LAHC has commissioned Sydney Water to locate concealed water leaks in common areas and has claimed over \$200k in concealed water leak rebates since January 2015

Design Standards – New residential project

- Specify a 6 star NatHERS rating for 75% of dwellings and 5 Star for the remainder
- Passive design, sun controls and insulation in external cavity brick walls and ceilings
- Instantaneous gas hot water systems
- Ceiling fans for hot climatic zones (2, 4, 5 & 6)
- Solar photovoltaic systems where common area power exceeds 10kWh during daytime hours
- LED lighting with inbuilt occupancy sensors

Tenant education programs

- Assisted over 53,000 tenants receive a free home energy assessment & energy saving kit
- Welcome to Your Home fact sheet contains information to help tenants reduce energy and water costs



Welcome to Your Home

Information to help you reduce your energy and water costs

There are many small things that residents can do to save money on their water and electricity bills as well as help the environment.

This factsheet contains helpful tips to make your home more efficient at minimal or no cost.

Use this information as a guide to get you started. Further information is available at www.housing.nsw.gov.au or contact your local client service team.

Energy use around your home

Energy bills are often higher in winter because people use heaters, take longer showers and keep the lights on longer. Below are some tips to reduce energy use around your home during the colder months:

- switch off lights in rooms that you're not using. Get into the habit of switching off lights when you leave a room
- turn off electrical appliances and charges at the PowerPoint when not in use. Turning off standby power can save you up to 10% on your energy bill
- if your heater has a timer, set it when you go to bed so it isn't running all night long. Never leave heaters unattended



Tips for winter warming and summer cooling

Winter warming	Summer cooling
Open blinds and curtains during the day to allow sunlight and fresh air into your home.	Open windows and doors in the early morning and late afternoon to allow cool air into your home. Open windows on opposite sides of your home for cross breezes.
Close windows, doors, blinds and curtains in the afternoon to keep in the warmth and the cold out. Use door snakes to stop cold air from creeping in under doors.	Close windows, curtains and blinds during the hottest part of the day.
Before you turn on the heater or electric blanket, try an extra layer of clothing first to help warm up. Only heat the room that you're using. Close doors to rooms you aren't using.	If your home is too hot, go somewhere cool like a library, shopping centre or the movies.
When using heaters, a lower temperature setting will use less electricity. Decreasing the temperature by 1°C can reduce heating energy by 10%. Set your heaters between 18 to 21°C.	When using an air conditioner, a higher temperature setting will use less electricity. Increasing the temperature by 1°C can reduce energy use by 10%. Set air conditioners between 23°C and 26°C.

Thank You

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