

4 June 2013

## BUILDING ENERGY USE IN NSW PUBLIC HOSPITALS

### HOSPITAL ENERGY COSTS NEED MORE ATTENTION

NSW Health has reduced its energy use and greenhouse gas emissions by two per cent over the last four years. It is pleasing that annual emissions are now 15,000 tonnes less than they were four years ago. However, this was not sufficient to meet its target of an 11 per cent drop in emissions.

Despite a reduction in energy use, energy cost in NSW Health has increased by nearly 50 per cent over the last four years to \$120 million per annum. This is expected to increase by another 50 per cent in the next five years.

“Energy is by far the fastest growing cost for NSW Health” said Mr Achterstraat. “More attention is needed to contain energy use and cost. NSW Health cannot continue to do things the same way”, he added.

Energy efficiency management practices and governance arrangements can be improved.

“While there are targets for emissions there are no targets for energy efficiency and cost”, said Mr Achterstraat.

“There are significant variations in energy efficiency across health districts and hospitals. The scale of the variations suggests there is scope for significant improvement”, said Mr Achterstraat.

There is no investment strategy for energy efficiency in NSW Health. There are loans available from NSW Treasury specifically for energy efficiency initiatives, but NSW Health has not taken full advantage of them. Energy-saving initiatives using the loans have so far been small-scale.

Three things need to change.

1. Better practice needs to be identified and adopted across the health system.

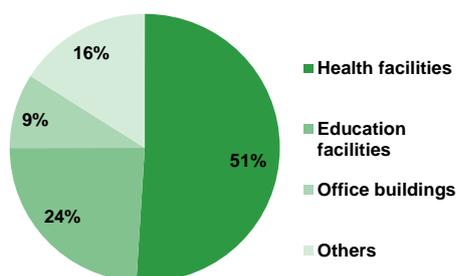
“There are real opportunities for hospitals and Local Health Districts to learn from those hospitals that are the most energy efficient” said Mr Achterstraat. “These include switching off lights when they are not needed, tweaking air conditioning temperatures and installing energy efficient lighting.”

2. A coordinated approach is needed to identify potential energy savings and to plan energy investments. This includes bundling projects, so more energy efficient plant and equipment can be purchased through stronger buying power.
3. It needs to be easier for Local Health Districts to invest in energy efficiency. Treasury loans should be simpler to get, and more flexible to use and repay. This would encourage larger projects with long term savings potential.

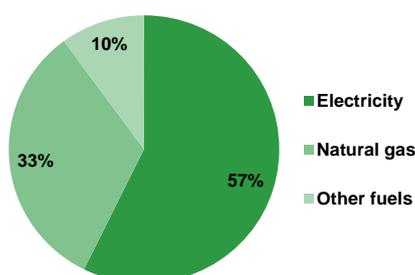
#### Further information

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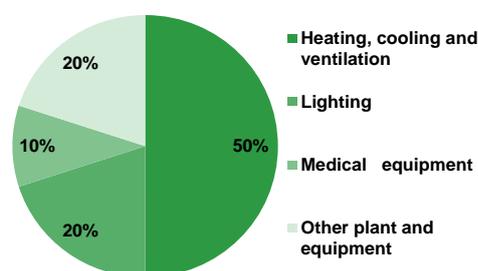
**Greenhouse gas emissions from building energy use for NSW general government budget dependent agencies in 2009-10**



**Building energy use in NSW Health**



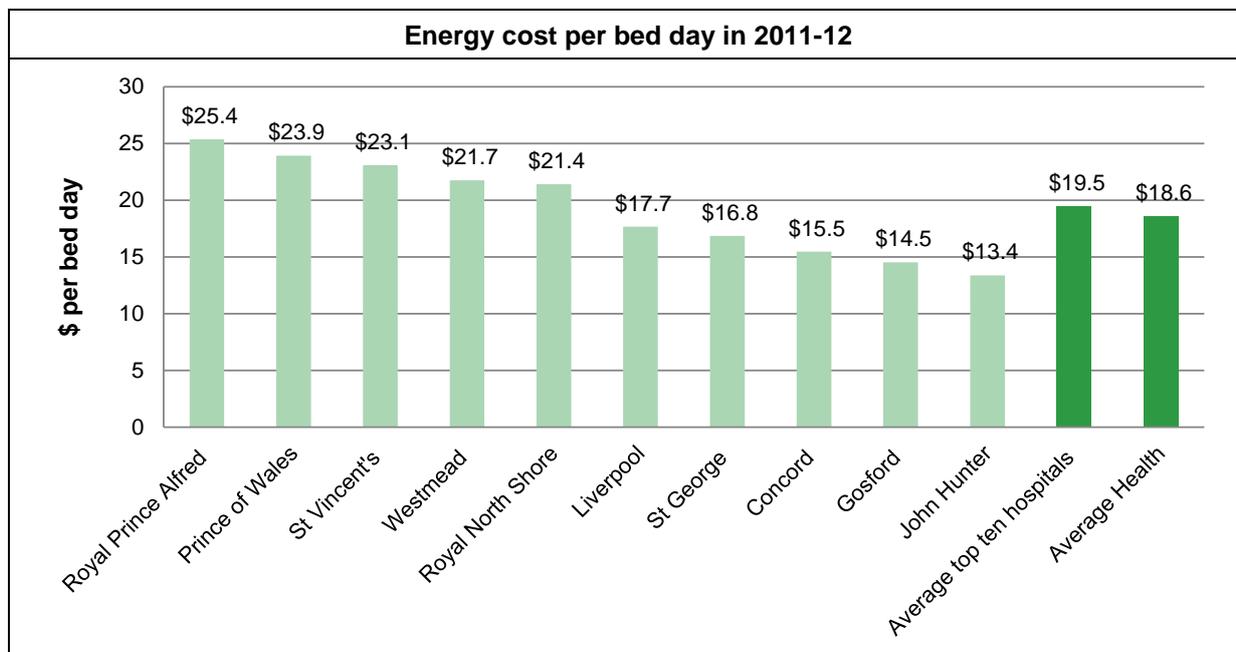
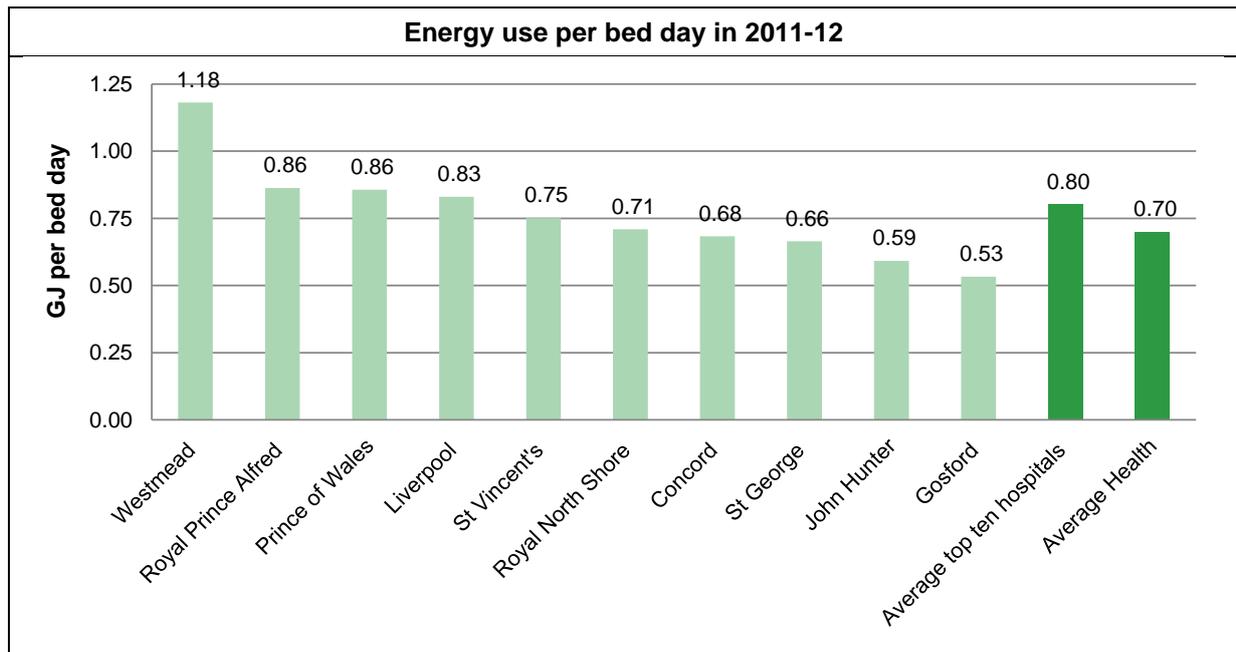
**Building energy use in large hospitals**



NSW Health statistics between 2008–09 and 2011–12		
Increase in total expenditure	19%	from \$13.8 billion to \$16.5 billion
Increase in energy cost	47%	from \$81.8 million to \$120.4 million
Increase in energy unit cost	51%	from \$18 per gigajoule to \$27 per gigajoule
Reduction in emissions	2%	from 921,253 tonnes of CO <sub>2</sub> -e to 906,593 tonnes of CO <sub>2</sub> -e
Total reduction in energy use	2%	from 4.6 million gigajoules (GJ) to 4.5 million GJ
Reduction in energy use per:		
• separation	10%	• from 2.98 GJ/separation to 2.7 GJ/separation
• bed day	4%	• from 0.73 GJ/bed day to 0.7 GJ/bed day
• full-time equivalent employee (FTE)	9%	• from 49.05 GJ/FTE to 44.56 GJ/FTE
Increase in energy cost per:		
• separation increased	36%	• from \$52.58/separation to \$71.58/separation
• bed day	44%	• from \$12.84/bed day to \$18.56/bed day
• full-time equivalent employee	37%	• from \$864.38/FTE to \$ 1182.25/FTE

Health investment in energy efficiency through the Treasury Loan Fund			
Date	Loan value	Number of projects	Expected annual savings
1998- 99 to 2010-11	\$30 million	28	\$5.9 million
2010-11 to 2013-14	\$38 million	32*	\$7 million

\*approved and proposed



### Practical examples that could be used in more hospitals

- Using energy efficient lighting
- Eliminating unnecessary or redundant external or internal lighting
- Setting operating temperatures so that buildings are never over-heated or over-cooled
- Switching off heating, cooling and ventilation in unused areas or during non-core hours
- Using solar energy to manage peak demand
- Bundling projects such as the replacement of lifts, cogeneration plants and chillers
- Putting all sites on state contract to get better energy prices
- Having competitions to see which hospital could save the most energy
- Displaying to staff real time energy use to ensure that awareness is maintained.