

## 17/07 Climate change

### Reducing the environmental impact of St Andrew's House

(A report from the St Andrew's House Corporation.)

#### Key points

- In March 2015, St Andrew's House achieved a 5.0 star energy rating under the National Australian Built Environment Rating System (NABERS).
- Improved energy efficiency of St Andrew's House has led to estimated savings of \$80,000 in electricity costs from 2012 to 2014.
- Water and waste management efficiencies for St Andrew's House are expected to increase as new technologies and practices are implemented.

#### Purpose

1. To advise the Synod about –
  - (a) the receipt of a formal energy rating for St Andrew's House ("SAH") under the National Australian Built Environment Rating System ("NABERS"), and
  - (b) other steps taken to reduce the environmental impact of SAH,
 in light of Synod resolution 17/07 on climate change.

#### Recommendation

2. Synod receive this report.

#### Background

3. At its session in 2007, the Synod passed resolution 17/07 as follows –
 

"Synod accepts the emerging scientific consensus that climate change is occurring and supports the need for Christian responses to the potential problems and opportunities that arise from climate change including –

  - (a) praying for our world and using every opportunity to speak of the Lordship of Jesus Christ;
  - (b) Christian ministry to those most vulnerable to the effects of climate change such as farmers, rural communities, the homeless and refugees;
  - (c) the setting of a godly example of good stewardship in our personal and communal lives;
  - (d) education of our children about a biblical understanding of creation and our role as its stewards and carers;
  - (e) the development and implementation of an environmental policy within each Parish and Diocesan organisation which expresses principles of good environmental stewardship and care; and
  - (f) encouraging governments at all levels to take climate change seriously and to make wise policy decisions to deal with its effects."
  4. This report updates a report provided to the Synod in 2008 which outlined in general terms the response taken to Synod resolution 17/07 in relation to SAH.

#### Improving the energy efficiency of St Andrew's House

5. In 2009, the St Andrew's House Corporation (the "Corporation") engaged Hyder Consulting ("Hyder") to specify any works that would be expected to improve the NABERS rating of SAH. NABERS is a performance based environmental impact based measurement system for commercial buildings. NABERS is capable of measuring the energy efficiency, water usage, waste management and indoor environment quality of a building and its impact on the environment. However the NABERS rating for SAH specifically related to energy consumption.
6. The recommendations of Hyder took into account previous upgrades and replacement of plant within SAH, particularly the replacement of two large chillers and indicated a potential NABERS energy rating of 4.5 stars for SAH.
7. In late 2010, a commitment agreement with the then NABERS government agency, the Department of Environment, Climate Change and Water ("DEECW"), now the Office of Environment and Heritage ("OEH"), was entered into in which the Corporation expressed an intent to attain a NABERS 4.5 star energy

rating for SAH. This was a consequence of leasing levels 3 to 5 of SAH on the departure of the Australian Bureau of Statistics. There is no requirement under existing leases to attain this energy rating.

8. In late 2011, as part of the level 3 and 4 building works, the Corporation approved works that would enable the achievement of a NABERS 4.5 star energy rating for SAH.

*NABERS formal assessment*

9. In 2012, Colliers International ("Colliers") was formally engaged to measure and collate all appropriate data for NABERS, periodically estimate the NABERS rating and when appropriate, formally apply for and obtain a minimum NABERS energy rating of 4.5 for SAH. The NABERS certification protocols require that energy data covering a 12 month period be independently assessed. This data is then used by OEH to provide a formal energy star rating.

10. Reports were provided to the Corporation in 2012 and 2013 regarding the progress towards a formal rating and the extensive work that needed to be undertaken to recommission measurement equipment before the 12 month formal collection of uninterrupted data could commence. This finally commenced in January 2014 after a number of mechanical issues with the meters used to measure energy usage were resolved.

11. The 12 months of uninterrupted, accurate and appropriate data was recorded between January and December 2014 that was then used to apply for a formal NABERS energy rating. The Colliers accredited NABERS assessor made formal application to the OEH in February 2015.

12. The documentation was assessed by OEH and a formal NABERS rating of 5.0 Stars for the SAH base building systems was received on 3 March 2015.

13. The NABERS energy rating of 5.0 stars takes into account the allowance in the NABERS protocol to deduct energy used by St Andrew's Cathedral School, the retail arcade and the car park: all of which are separately metered and measured by the SAH building management system. No 'Green Power' was purchased in order to influence the SAH rating.

14. The formal notice of the energy rating for SAH will be publicised in the main foyer and other appropriate areas of the building.

*Further NABERS assessment*

15. The official 5.0 star rating was based on energy data collated over the 2014 calendar year. Colliers advise that on re-assessment later this year that a NABERS energy rating of 5.5 to 6.0 stars is achievable as the result of measuring the full impact of replacing the old pneumatic controls and building management system throughout SAH that were completed in the latter half of 2014.

*Energy reductions*

16. From 2009 to 2014, as a result of the capital works undertaken in respect of improving the energy efficiency of SAH, electricity usage has dropped by 765,000kWh (about 20%). This roughly equates to a reduction of 530,000kg of 'carbon emissions' or the equivalent to taking 111 cars off the road. Gas usage has also declined by 125,000MJ, equivalent to a reduction in carbon emission of 27,000 kg (or 6 cars). Water usage continues to be managed effectively.

17. The reduction in electricity and gas usage has improved the financial performance of SAH, albeit tempered by increasing energy costs. It is estimated that savings of about \$80,000 in electricity costs from 2012 to 2014 have been achieved.

**Waste management, recycling and water usage in St Andrew's House**

18. Waste management, recycling and water usage practices in SAH are managed by the building property manager. Records in relation to general waste and recycling of cardboard, paper, plastic and cans have been kept by the building property manager since 2013. These show a drop in general waste from SAH from 308.33 tonnes (in 2013) to 263.68 tonnes (in 2014). Over the same period, recycling of cardboard, paper, plastic and cans increased from 55.66 tonnes to 59.02 tonnes. Water usage is regularly monitored and water efficiency practices are reviewed and implemented.

19. It is expected that further water and waste management efficiencies will increase in the future as new technology and practices are implemented.

For and on behalf of the St Andrew's House Corporation.

LAURIE SCANDRETT  
Chair

30 April 2015