

Case study – TAFE NSW New England Institute



Learning energy saving lessons at TAFE

Through implementing an Energy Saver audit, TAFE NSW – New England Institute has saved an estimated \$29,000 in energy costs at its Moree and Inverell campuses. It has magnified these gains by applying the lessons learnt to its other nine campuses.

TAFE NSW – New England Institute provides vocational education and training in the northern inland region of NSW, servicing an area of 100,000 square kilometres and delivering courses to 21,000 students a year. Recently, the Institute completed a subsidised Energy Saver audit of two of its 11 campuses to identify opportunities to improve energy efficiencies and reduce carbon pollution.

Since 2007, the Institute has been very proactive in reducing its power use across all campuses and received a prestigious 2011 Green Gown Award for Sustainability in Tertiary Education.

So when Director of Educational Operations Bernie Ingle heard about the Office of Environment and Heritage's (OEH) Energy Saver program, he was immediately interested.

'We selected the Moree and Inverell campuses for the audit because they are typical of our catchment area and covered most building types and ages,' says Ingle. 'Our objective was to extrapolate the audit's findings for our campuses in Narrabri, Coonabarabran, Gunnedah, Glen Innes, Quirindi, Tamworth, Boggabilla, Armidale and Tenterfield.'

'For example, the audit recommended we replace T8 fluoro lights with T5s, which we implemented at numerous campuses – not just Moree and Inverell. Likewise, we installed underfloor insulation to buildings in six other locations.'

In brief

An Energy Saver audit of New England Institute Moree and Inverell campuses identified a range of energy saving initiatives. These included lighting upgrades, enclosing sub-floors of buildings and removing duplicate heating systems. The implementation of the audit's recommendations helped reduce power consumption at the two campuses by more than a quarter, saving an estimated \$29,000.

Results

- Estimated reduction in energy use of 25 per cent.
- Annual cost savings of approximately \$29,000 (based on 2010 prices).
- Achieves annual reduction of 110 tonnes of carbon pollution.
- Payback period of 3.8 years for all projects.
- Further savings from recommendations rolled out to the Institute's nine other locations.



- 'Our challenge in managing these educational facilities is to minimise our energy expenditure and impact on the environment while providing top-rate practical instruction for students.'

'The audit confirmed a lot of our thinking and reinforced the direction we needed to take to further improve our energy efficiencies.'

Stewart Pyne, who is Group Leader of the Asset Management Unit for the NSW Department of Education and Communities (DEC) in New England, says the audit delivered a significant return for a pretty small investment.

'As a facility manager, I am aware of the pros and cons of different building types' says Pyne, who manages the Institute properties. 'The audit was very beneficial because it quantified the savings that would result from each recommendation, making it easy to calculate pay-back periods and create a business case.'

'The audit was a relatively cheap investment given the size of the gains we were able to achieve. Any educational institution operating a range of infrastructure would almost certainly benefit from an Energy Saver audit.'

The Institute's audit recommendations included the following initiatives:

- significant lighting upgrades (e.g. replacing high-bay lights and halogens with compact fluorescent lights)
- removing several small hot water systems
- putting timers on instant hot water dispensers or using kettles in their place

- replacing an old evaporative air conditioning system and gas heating system with a heat pump
- removing duplicate heating systems
- installing timers on teleconference equipment
- enclosing sub-floors on buildings.

Pyne says DEC spent one million dollars upgrading the 11 campuses in the six months after the audit was completed in November 2010. Moree and Inverell capital works accounted for around 10 per cent of this expenditure.

'The great thing about the audit was that it enabled the department to deliver more improvements in a shorter timeframe,' says Pyne. 'We'll continue to use the audit's findings to make further upgrades.'

The current trial of a photovoltaic system at the Coonabarabran campus is expected to power half of that facility's needs. Pyne says if the trial is successful, solar power will be rolled out to other locations.

The Institute is a member of the OEH Sustainability Advantage Program, and is a cofounder of Northern Inland Sustainable Business Network.

Your next step

To find out how your business can access support contact the Energy Saver team

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