



Government Resource Efficiency Policy

Agency Report

TAFE NSW - Hunter Institute

2014 - 2015

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What matters to you?

This report is a tool that helps you make informed decisions about your agency's resource use. The data presented will establish your current position in relation to the Government Resource Efficiency Policy (GREP) targets and help you to identify opportunities for energy efficiency projects and initiatives.

Use the results to take actions that will lock in future savings.

action matters: save money, resources and time.

About this report

Launched in July 2014, GREP improves performance in three main areas — energy, water and waste — and also reduces harmful air emissions from government operations. All general government sector agencies are required to report annually on the policy targets, actions and minimum standards using financial-year data.

This report details the resource usage for the current reporting year, 2015, and three previous years for TAFE NSW - Hunter Institute. A list of entities included in this report is available in [Appendix A](#).

TAFE NSW - Hunter Institute is located under the Industry, Skills and Regional Development cluster, as of 1 July 2015.

This report has been compiled by the Office of Environment and Heritage.

Disclaimer

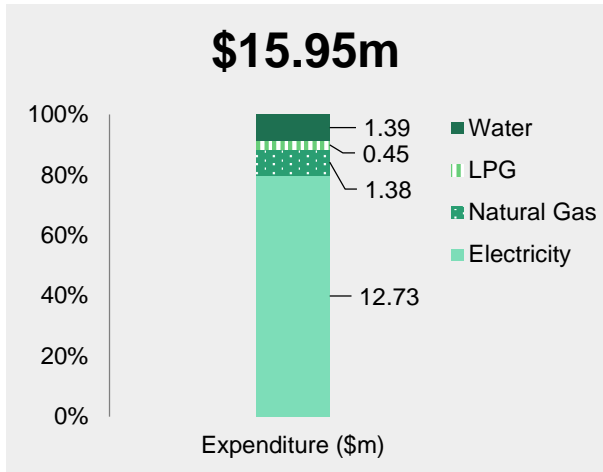
The Office of Environment and Heritage (OEH) has compiled this report in good faith, exercising all due care and attention. No representation is made about the accuracy, completeness or suitability of the information in this publication for any particular purpose. OEH shall not be liable for any damage which may occur to any person or organisation taking action or not taking action on the basis of this publication. Readers should seek appropriate advice when applying the information to their specific needs.

Key contact

Office of Environment and Heritage
Sustainable Government Team
E: government@environment.nsw.gov.au

Cluster summary

FY15 total expenditure distribution



Note: This figure includes electricity, gas and water. Waste is not included in this figure.

E1 interim target for clusters

Industry, Skills and Regional Development
40 per cent of total billed energy use*

\$5.77m

This target uses baseline data from FY14

* billed energy use for electricity and gas.

Electricity accounted for 80 per cent of Industry, Skills and Regional Development's total billed resource use for FY15.

Number of entities in cluster*

43

entities included in cluster 40 per cent target

*A list of entities is provided in [Appendix A](#).

Cluster energy efficiency projects

18

projects undertaken across the cluster since July, 2012

Note: This figure includes OEH supported projects that have been implemented, approved or are in the pipeline, in addition to those reported by entities.

Agency summary

Number of sites reported*

26

*sites are defined as unique addresses

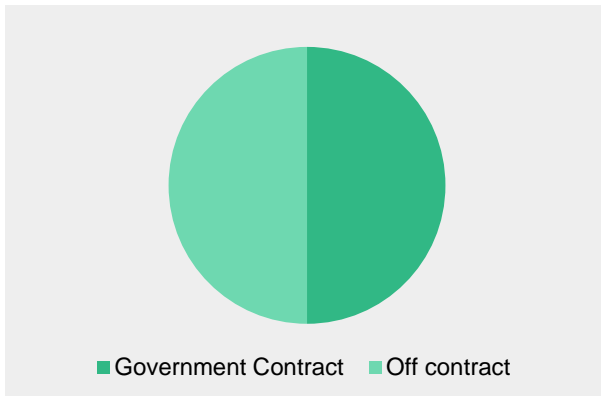
FY15 total expenditure (resources)

\$1.16m

3% decrease from FY14

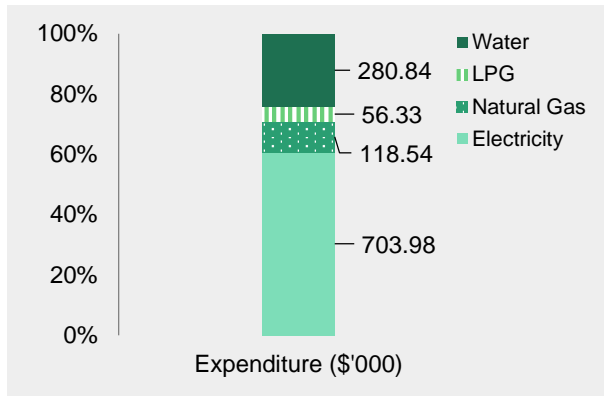
Note: This figure includes electricity, gas and water. **Waste is not included in this figure.**

Government contract vs. off contract



Note: This figure is based on the number of sites.

FY15 total expenditure distribution



Individual E1 target for agency

TAFE NSW - Hunter Institute

40% of total billed energy use*

\$345k

This target uses baseline data from FY14

* billed energy use for electricity and gas.

Energy efficiency projects

3

projects undertaken since July, 2012

Note: This figure includes OEH supported projects that have been implemented, approved or are in the pipeline, in addition to those reported by your agency.

Key findings

The findings in this report are based on analysis of electricity, natural gas, LPG and water usage data for TAFE NSW - Hunter Institute, in addition to waste data and details of all energy efficiency projects undertaken since July, 2012.

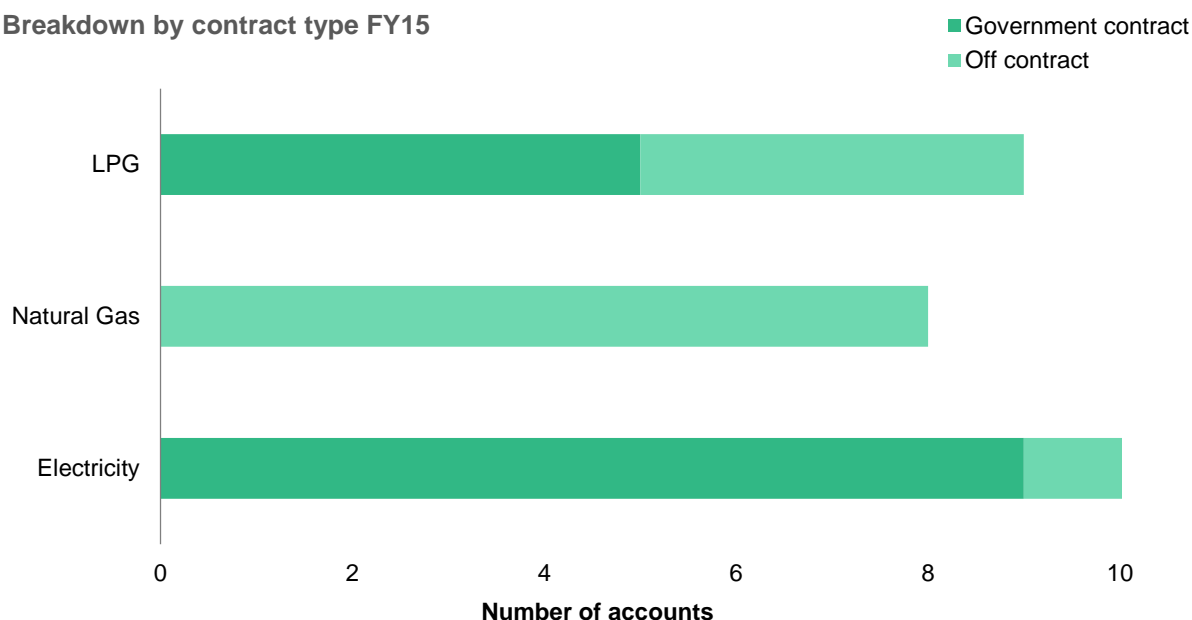
Total usage by resource type

FY	Electricity		Natural Gas		LPG		Water		Waste ¹	
	kWh	\$	MJ	\$	L	\$	kL	\$	L	\$
2012	5,050,592	873,915	0	0	53,908	31,025	50,956	200,337	0	0
2013	4,573,534	1,017,706	0	0	42,083	26,424	76,237	288,091	0	0
2014	3,775,279	863,337	0	0	46,053	38,887	73,720	291,617	0	0
2015	3,554,596	703,982	5,193,320	118,544	94,242	56,327	68,219	280,838	124,726	251,986

Contract types

Depending on total consumption, agencies have the option to enter into government-held contracts for electricity, natural gas and LPG. The chart below shows the breakdown of energy resources by contract type.

Breakdown by contract type FY15



All of your natural gas accounts are off contract.

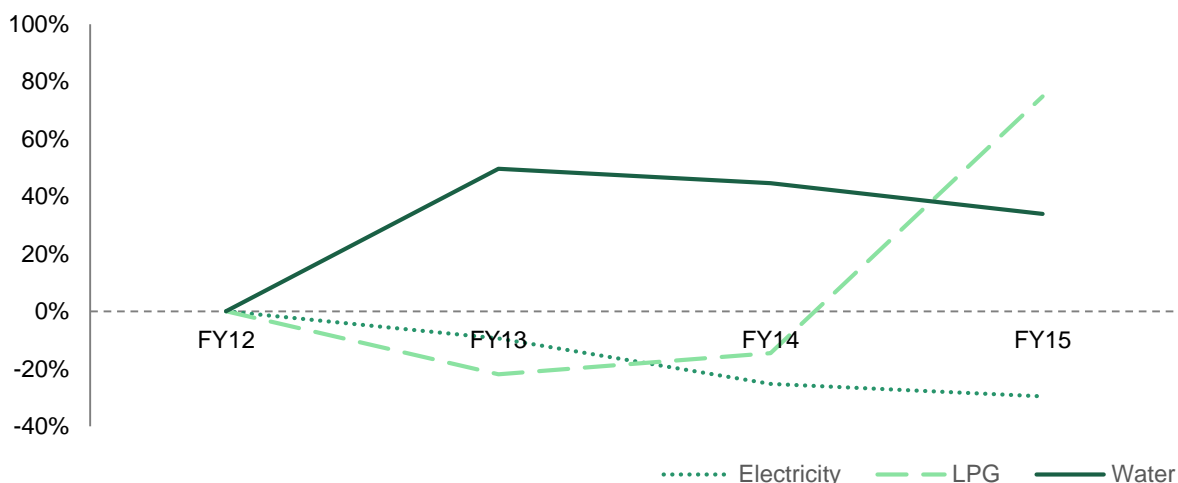
¹ For breakdown of individual waste streams, please see the [Waste](#) section.

Energy and water

TAFE NSW - Hunter Institute consumes **electricity, natural gas, LPG** and **water**. During FY15, **six per cent GreenPower** was purchased across all sites.

The graph below shows the variance of TAFE NSW - Hunter Institute's electricity, LPG and water usage over the past four years, compared to FY12. Insufficient data was available for natural gas.

Resource use per cent change from FY12



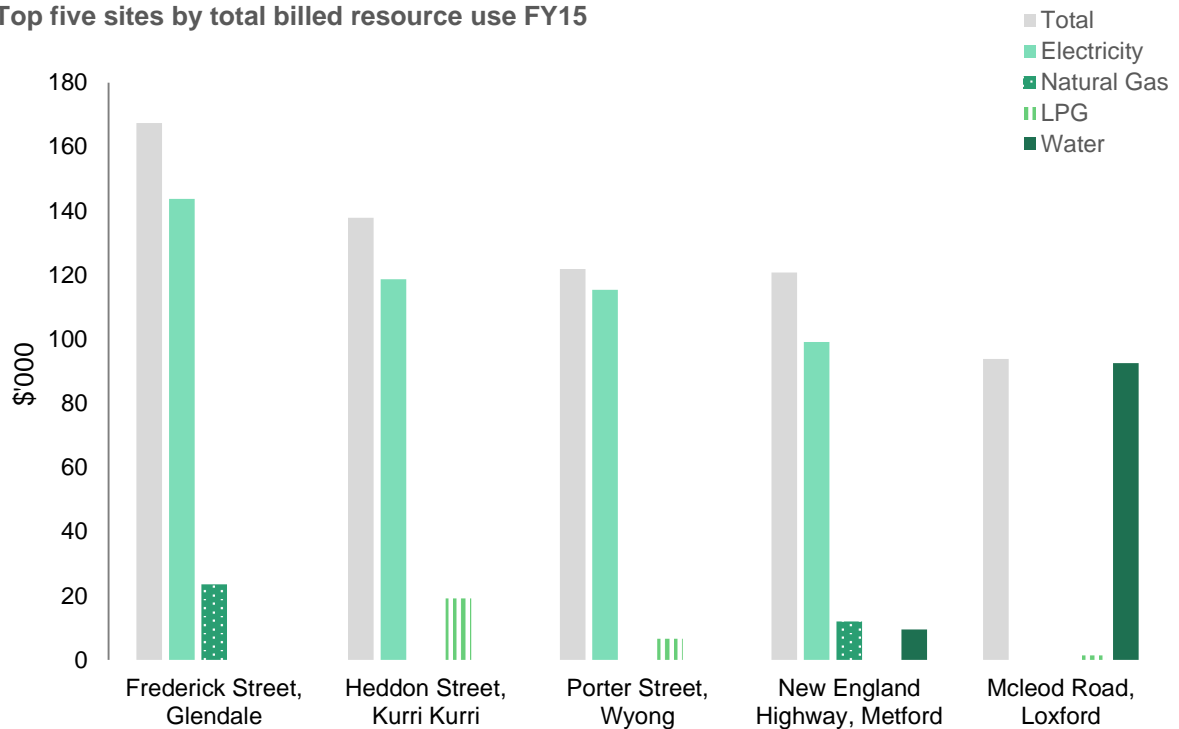
Top 10 sites by total billed resource use

The table below presents the total billed resource use, including charges from energy and water consumption, for FY15. The chart shows the per cent of energy and water billed at each site.

Site address	Total billed resource use (FY15)		0%	20%	40%	60%	80%	100%
	\$	% of agency total						
Frederick Street, Glendale	167,349	14%	[Bar chart showing ~85% Electricity, ~15% Water]					
Heddon Street, Kurri Kurri	137,860	12%	[Bar chart showing ~85% Electricity, ~15% Water]					
Porter Street, Wyong	121,924	11%	[Bar chart showing ~85% Electricity, ~15% Water]					
New England Highway, Metford	120,746	10%	[Bar chart showing ~85% Electricity, ~15% Water]					
Mcleod Road, Loxford	93,875	8%	[Bar chart showing ~100% Water]					
266 Maitland Road, Tighes Hill	88,379	8%	[Bar chart showing ~100% Water]					
Darwin Street, Cessnock	79,699	7%	[Bar chart showing ~70% Electricity, ~30% Water]					
91 Parry Street, Newcastle West	71,592	6%	[Bar chart showing ~60% Electricity, ~40% Water]					
Henry Parry Drive, Gosford	59,040	5%	[Bar chart showing ~85% Electricity, ~15% Water]					
Pacific Highway, Belmont	51,190	4%	[Bar chart showing ~100% Electricity]					
Total	991,654	86%	<div style="display: flex; justify-content: space-around; font-size: small;"> ■ Electricity ■ Natural Gas ■ LPG ■ Water </div>					

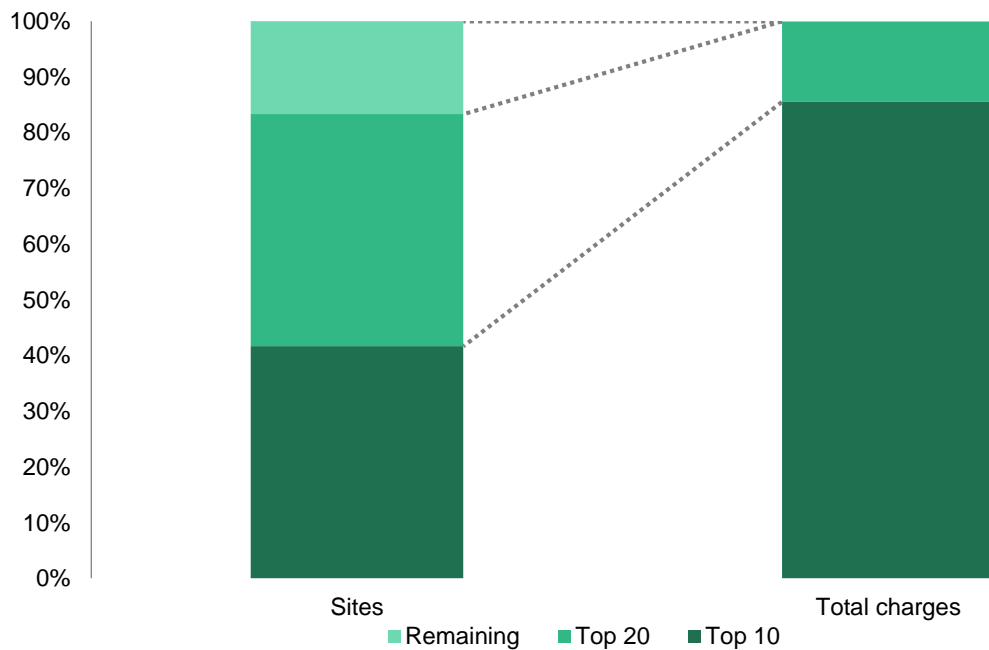
Top five sites by total billed resource use

Top five sites by total billed resource use FY15



Distribution of billed resource use across all sites

Distribution of billed resource use across all sites FY15



Your top 10 sites account for 86 per cent of your total resource use charges.

Energy efficiency projects

TAFE NSW - Hunter Institute has implemented a total of **three** energy efficiency projects.

Projects with OEH support

Site name	% billed energy use ²	Financial Year	Project type
None			

Internal energy efficiency projects

These are projects implemented by TAFE NSW - Hunter Institute which have not been funded or supported by OEH.

Site name	% billed energy use ²	Financial Year	Project type
All TAFE NSW Hunter Institute campuses	-	2014	LED lighting refit - indoor fittings
91 Parry Street, Newcastle West	6.17%	2014	Solar Desiccant Cooling Project
Frederick Street, Glendale	14.43%	2015	LED lighting refit - outdoor fittings
Total	20.60%		

² This is the total billed energy use for the site as a percentage of the total billed energy use within TAFE NSW - Hunter Institute.

Progress towards 40 per cent target

TAFE NSW - Hunter Institute should aim to implement energy efficiency projects at sites representing 40 per cent of its 2013-2014 baseline billed energy use for electricity and gas by June 2018. This target aligns with the GREP measure E1 40 per cent interim cluster target.

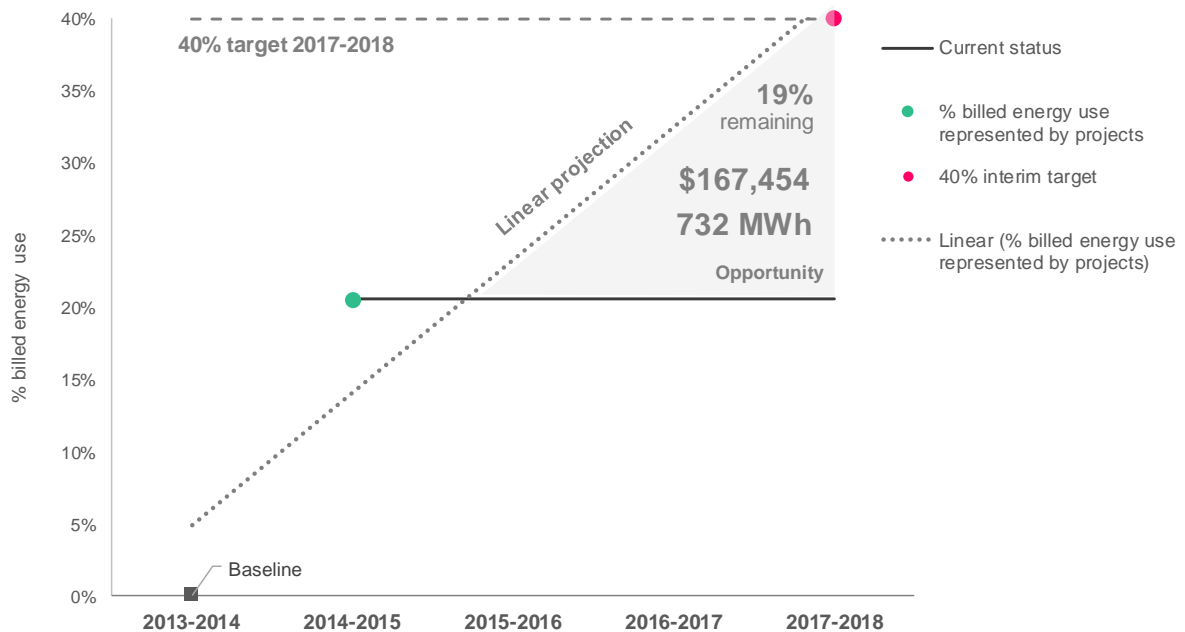
40 per cent agency target: \$345k

Since July, 2012, TAFE NSW - Hunter Institute has implemented **three** projects, representing **21 per cent** of the total billed energy use across all sites.

21 per cent

Percentage of total billed energy use represented by these projects

TAFE NSW – Hunter Institute has **19 per cent** remaining in order to reach the suggested 40 per cent target. This opportunity is identified in the chart below.

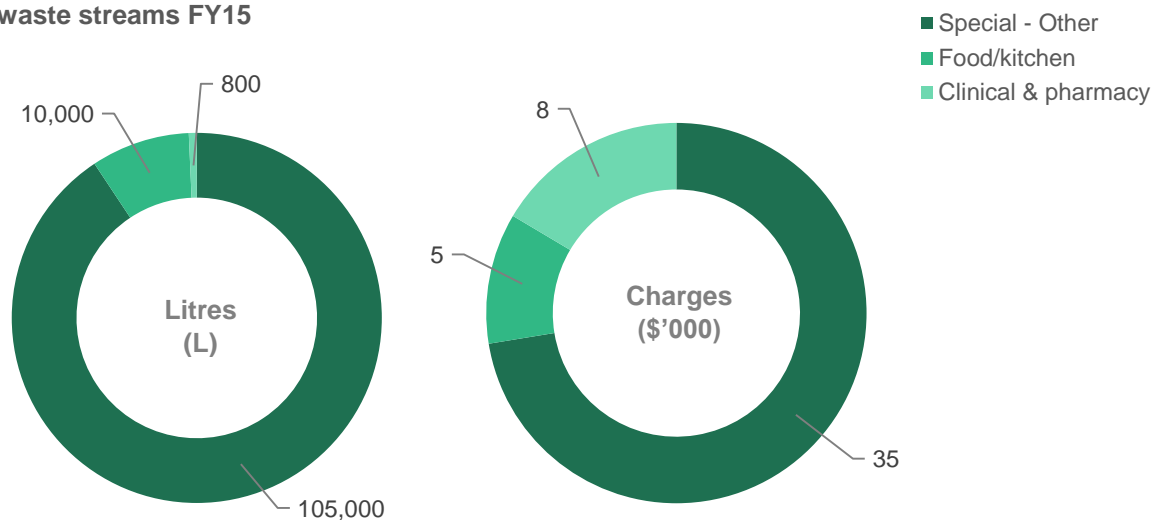


Waste

TAFE NSW - Hunter Institute chose the following top three waste streams for FY15; **special – other, food/kitchen** and **clinical & pharmacy**.

Special - other was identified as the largest waste stream, by volume, and expenditure.

Top three waste streams FY15



take action today

Reduce your waste by taking the following three simple actions:

- 1 Make recycling kitchen organics easy**
Increasing organic recycling involves making recycling easy. Place organic bins in the kitchen near waste bins and use signage to indicate what can be diverted from landfill. Ensure you communicate any changes with your staff to get them motivated.
- 2 Determine what materials are in your general waste**
Carry out a waste audit or visual inspection to determine what materials are in your general waste. Use the information from the audit to target recycling or avoidance campaigns.
- 3 Address waste at the source**
Waste begins at the source, not in the bin. If you reduce what you use, this also reduces what ends up in the bin. For example, review your stationery requirements, the use of security paper bins or adopt a low waste purchasing policy that takes packaging into consideration.

Annual Statement of Compliance

E2: Minimum NABERS Energy ratings for offices and data centres

Not applicable. Hunter TAFE does not own or lease dedicated office buildings over 2,000m². Hunter TAFE's asset portfolio includes over 120 buildings including but not limited to: classrooms, computer laboratories, workshops, scientific laboratories, kitchens, libraries, staffrooms, cafeterias, common areas and offices.

In tracking towards minimum NABERS rating, Hunter TAFE continues to purchase servers from Dell aligned to a strategy of consuming less power and virtualisation. Dell products have used less power with each new release, realising a saving of additional energy costs since 2008. Our Dell servers are warrantied to run for extended periods at up to 113°F/45°C, allowing for an extensive geographic range of potential chiller-less operation. Hunter TAFE in 2015/16 are implementing a strategy of increasing the core temperature of the Institute computing centre from 21 degrees through to 24 degrees. Hunter TAFE users Blade Servers with a much smaller footprint. This improves space utilisation along with reduction in power costs by up to 20 percent. Hunter TAFE continues to virtualise software and hardware with corresponding reductions in power use. It should be noted that Hunter TAFE's computing centre is not separately metered and would need to be assessed under "whole of facility rating" as per NABERS methodology.

E3: Minimum standards for new electrical appliances and equipment

Hunter TAFE business rules for procurement include provisions related to the purchase of electrical appliances for new electrical appliances and equipment. Minimum energy efficiency standards have been included in fit-out, furnishing and equipment schedules for recent works projects including Maitland Finishes Building and Kurri Kurri Plant and Heavy Vehicles Facility. When purchasing, comparisons have been made of specifications and prices of goods that are energy efficient. Hunter TAFE Procurement Section is integrating KPIs into contracts for sustainability that include energy efficiency and there is an ongoing need to maintain compliance with these requirements across the Institute.

E4: Minimum standards for new buildings

Hunter TAFE projects managed under NSW Public Works or the Department of Education Asset Management Unit (AMU) were based on NSW Department of Education "Education Facilities Standards and Guidelines" in 2014/15. There is an ongoing need to maintain compliance with these requirements across the Institute.

E5: Identify and enable solar leasing opportunities

Hunter TAFE has included the provision of PV (15kW) in the new Maitland Finishes Building completed in December 2014. Solar hot water was also included the recently completed Plant and Heavy Vehicle Teaching Facility at Kurri Kurri. Hunter TAFE is also been liaising with the Clean Energy for Newcastle and Surrounds (CLEANaS) organisation to investigate a potential solar leasing pilot at its Glendale Campus.

E6: Minimum fuel efficiency standards for new light vehicles

Hunter TAFE leases vehicles from within the NSW State Contract (SCM0653) using the NSW Government Motor Vehicle Prequalification Scheme and this complies with GreenFleet minimum fuel efficiency standards. Careful and thorough investigation of each vehicle is considered during the procurement process, using the Fleet Selection guide. One factor of the current selection criteria is vehicles are selected for fuel efficient technologies. We currently do NOT purchase/lease from outside of NSW State contract.

E7: Purchase 6% Green Power

Hunter TAFE specifies 6% GreenPower for electricity including SC777 and SC778 contract supply.

W2: Minimum NABERS Water ratings for office buildings

Not applicable. Hunter TAFE does not own or lease dedicated office buildings over 2000m² in its asset portfolio. However, Hunter TAFE has included minimum water performance standards in recent works projects (Maitland Finishes Building, Kurri Plant and Heavy Vehicle Building and the Muswellbrook Tertiary Education Centre currently being constructed by Muswellbrook Shire Council for proposed lease to Hunter TAFE in 2015/16.) Minimum water standards have also informed water refit projects across Central Coast, Kurri Kurri and Newcastle Campuses.

W3: Minimum standards for new water-using appliances

Hunter TAFE business rules for procurement include provisions related to the purchase of water efficient appliances. Water efficiency standards have been included in fit-out, furnishing and equipment schedules for recent works projects including Maitland Finishes Building and Kurri Kurri Plant and Heavy Vehicles Facility. There is an ongoing need to maintain compliance with these requirements across the Institute.

A1: Air emissions standards for mobile non-road diesel plant and equipment

Hunter TAFE uses a small amount of mobile non-road diesel plant and equipment to support teaching programs in mechanical services, agriculture and horticulture. Where possible, equipment is purchased under State Contract. Contractor requirements with respect to air emission standards are outlined in project specifications where required. Hunter TAFE also specifies prevention of air pollution in its campus specific environmental objectives. Ongoing actions are required to ensure Hunter TAFE's procurement business rules and auditing frameworks are updated to comply with this requirement.

A2: Low-VOC surface coatings

Hunter TAFE specifies low volatile organic compound (VOC) surface coatings in new works projects particularly those including student classrooms and staff office spaces. Hunter TAFE projects managed under NSW Public Works or the Department of Education Asset Management Unit (AMU) are based on NSW Department of Education "Education Facilities Standards and Guidelines". In situations involving anti-graffiti treatments, high usage, public place safety signage and repainting of heritage facilities, Hunter TAFE may be guided to use higher VOC surface coatings (including enamel paints), in accordance with GPC and Department of Education guidelines. Hunter TAFE continues to investigate low-VOC alternatives in partnership with its staff, procurement advisors and contractors.

Beyond compliance

Energy

As a result of the findings of a successful level 2 energy audit supported by the NSW Office of Environment and Heritage in 2010-11; Hunter TAFE implemented a number of energy saving measures in the 2014/15. These included the ongoing trial of real time energy and water across selected campuses (Newcastle, Wyong, Glendale, Hamilton and Maitland). Staff engagement was a key component of this program with promotion of vacation energy shut down challenges for campus and faculty staff.

Hunter TAFE also continued the phased replacement of T12 fluorescent fittings with LED energy efficient fittings at a number of campuses. The Institute also engaged an Authorised Certificate Provider (ACP) to assess and recover energy saving certificates (ESCs) available as a result of energy saving programs during the period.

Water

Hunter TAFE obtained funding from Hunter Water Corporation to install submetering and undertake a water audit on Newcastle Campus. The outcomes of this project led to identifying and repairing significant leaks and installing water saving fittings in high use areas. Water consumption on Newcastle Campus was reduced by around ten million litres per annum as a result of this project.

The Institute installed low-flow taps and dual flush toilets at Gosford, Wyong, Glendale and Kurri Kurri Campuses.

Waste

Conducted Bin Trim and waste management training for 15 Hunter TAFE team leaders and maintenance officers at Maitland campus.

Implemented comingled recycling pilot in student cafeteria of Newcastle Campus.

Undertook waste reduction program at Muswellbrook Campus reducing waste collection expenses by around 40%.

Clean air

Institute procurement and maintenance staff have been advised of the NSW GREP requirements in relation to low volatile organic compound surface coatings. Clean air related instructions have been included in the Institute's campus specific environmental objectives.

Other

Hunter TAFE participated in the NSW Government Sustainability Advantage Program undertaking the Stakeholder Engagement module during 2013 and 2014. Institute representatives also participated actively in the NSW Office of Environment and Heritage Tertiary Cluster of the Sustainability Advantage program. The Institute is also a member of the TAFE Directors Australia environmental sustainability network.

Act now for the future.

The Office of Environment and Heritage's Sustainable Government team can help your agency implement resource efficiency projects to save you money and resources.

The team works with you to help you achieve the E1 target. With our energy efficiency specialists, you can identify, plan and deliver projects that meet your needs and goals. We can provide access to:

- treasury finance as a repayable advance
- a panel of approved energy service companies to simplify procurement
- energy performance contracting that guarantees savings and low project risk.

We can also provide support and advice on resource efficiency in energy, water, waste and clean air. This could include helping you undertake pilot projects, facilitating action at a cluster level, helping you to negotiate contracts to embed resource efficiency considerations or profiling your successful projects.

Save money, resources and time.

We worked with a hospital to install sub-metering to monitor resource usage and identify opportunities to improve productivity. An energy performance contract was negotiated that guaranteed savings at least equal to the total projected cost of the project. The current projected savings over the five-year contract will total over \$800,000, *more than double the total cost of the project*. The savings will go to funding more core services at the hospital.

Small actions. Big impact.

A TAFE campus used a desktop audit from data supplied by its contractor and undertook visual inspections of bins to evaluate waste costs. As a result, the TAFE saved approximately 40 per cent on its waste costs by resizing bins and adjusting collection frequency.

Government contracts

To learn more about moving your sites onto a government-held energy or gas contract visit ProcurePoint.

W: www.procurepoint.nsw.gov.au

We're here to help

If you are interested in how we can assist you, please get in touch.

E: government@environment.nsw.gov.au

Appendix A

List of entities included in the report

TAFE NSW - Hunter Institute

List of entities included in the cluster

Department of Industry, Skills and Regional Development

Office of Coal Seam Gas

Department of Primary Industries

Resources and Energy

Local Land Services

Agriculture NSW

Office of Sustainable Agriculture and Food Security

Biosecurity NSW

Fisheries NSW

Food Authority, NSW

Land and Natural Resources

Water, NSW Office of

Energy

Mine Safety Performance

Mineral Resources

Border Rivers-Gwydir CMA

Northern Rivers CMA

Central West CMA

Namoi CMA

Hunter-Central Rivers CMA

Hawkesbury-Nepean CMA

Sydney Metro CMA

Lachlan CMA

Murrumbidgee CMA

Lower Murray-Darling CMA

Murray CMA

Western CMA

Southern Rivers CMA

Screen NSW

Rural Assistance Authority, NSW

NSW Crown Lands

Dams Safety Committee, NSW

TAFE and Community Education

TAFE NSW - Hunter Institute

TAFE NSW - Illawarra Institute

TAFE NSW - New England Institute

TAFE NSW - North Coast Institute

TAFE NSW - Northern Sydney Institute

TAFE NSW - Riverina Institute

TAFE NSW - South Western Sydney Institute

TAFE NSW - Sydney Institute

TAFE NSW - Western Institute

TAFE NSW - Western Sydney Institute

Appendix B

Methodology

This report presents data from government-held contracts combined with internally sourced data, where provided by agencies.

All data has been annualised to cover 12 months for monthly billing cycles, and 365 days for quarterly billing cycles.

All expenditure figures include both usage and service charges and exclude GST.

Cluster 40 per cent target

The cluster 40 per cent target is based on the total billed energy use (\$) for electricity and natural gas data from FY14 (1 July 2013 – 30 June 2014).

Data for all sites belonging to agencies classified as General Government Sector within a cluster are included in the target.

The cluster classification used in this report is for FY16, effective 1 July 2015.

Access to raw data

If you would like to obtain the raw resource use data for your agency, please contact:

Office of Environment and Heritage

Sustainable Government Team

E: government@environment.nsw.gov.au