

Charles Sturt University NSW, Australia

Energy Performance Contract 1

Conservia enables Charles Sturt University (CSU) status as Australia's first Carbon Neutral University.

EPC Outcomes Year 1

Cost Savings **\$176,831/yr**

Cost Savings Above Target **\$19,723**

GHG Savings **1,077 tonnes /yr**

Financing **From Savings Only**

Conservia designed and implemented a leading solution for Charles Sturt University (CSU) in response to the university's Energy Performance Contract (EPC), cementing its position as Australia's first Carbon Neutral University and its ability to set sector benchmarks for campus-wide sustainability & energy efficiency.

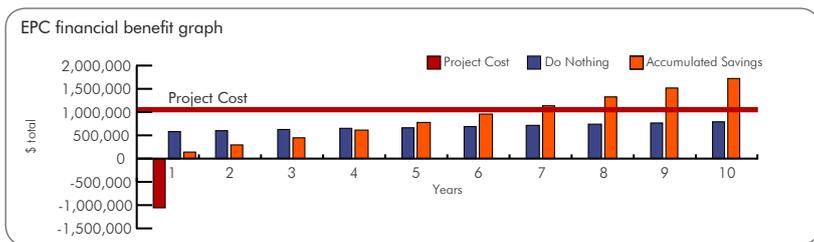
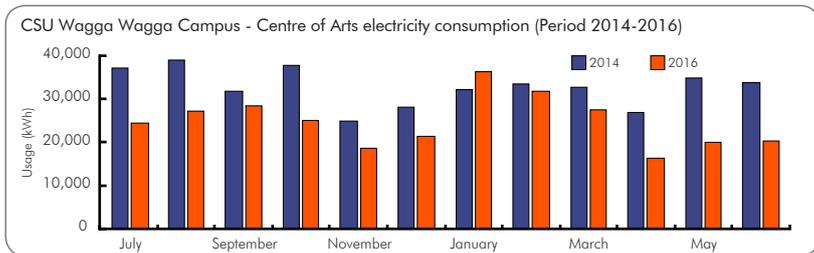
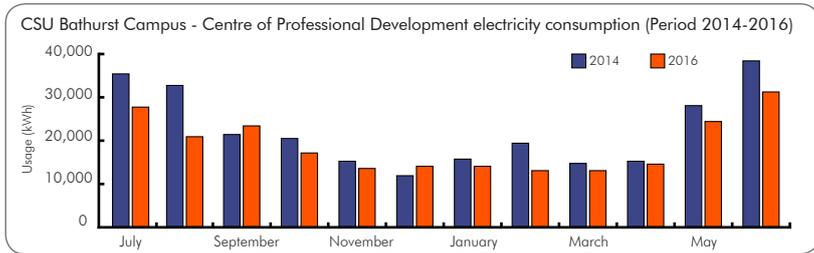
Conservia's scope included audit, needs analysis, measurement & verification (M&V) to quantify energy saving targets, optimisation of existing systems as well as design and installation of new energy and water conservation measures across 17 buildings with different typologies (laboratories, libraries, administration, student accommodation) at CSU Bathurst & Wagga Wagga campuses.

Key energy & water conservation measures:

- New building management system (BMS) controls;
- Modification of constant volume systems to variable volume systems thus reducing reheating;
- Installation of demand ventilation (CO₂ based control);
- High level interface control with the variable refrigerant volume air conditioner units;
- Integrated occupancy based lighting and heating, ventilation and air conditioning (HVAC) control;
- Installation of flow restrictors on taps;



- Installation of variable speed drives on air handling unit fans, chilled water pumps, condenser water pumps & cooling tower fans;
- BMS fine-tuning with optimum start/stop and temperature resets;
- Installation of efficient T5 fluorescent lighting, Light Emitting Diode (LED) down lights and LED external flood lights;
- Installation of occupancy based lighting control;
- Installation of solar hot water preheating.



Australia's First Carbon Neutral University

CSU was certified as the first carbon neutral university in Australia in July 2016 as measured by the National Carbon Offset Standard (NCOS) after implementing the Conservia energy and water conservation measures and the university's commitment to planning and investment across its people, systems and infrastructure.

Conservia achieved cost savings of \$176,831 representing \$19,723 above EPC Stage 1 targets for electricity, natural gas & water consumption.

Savings



Electricity Savings = **813,548 kWh/yr**
(14% of total and 3.6% in excess of proposed)



Natural Gas Savings = **4,106 GJ/yr**
(30% of total and 93% in excess of proposed)



Water Savings = **740 kL/yr**
(16% of total and 3.6% in excess of proposed)