



# INSTITUTIONAL CHANGE

JAMES COOK UNIVERSITY'S STEPS TOWARDS REDUCING ITS CARBON FOOTPRINT ARE BOTH SMALL AND LARGE, BUT THEY'RE ALL IN THE RIGHT DIRECTION.

Just over a year ago, James Cook University enlisted a dedicated environmental manager. Since then, a whole raft of changes have flourished, from introducing a cutting-edge waste processing machine this month to encouraging staff and students to turn off their computers at night. Adam Connell has embraced the role after coming from a resource management background. "JCU has always had a very strong focus on environment and sustainability on its academic and research side, but we are really starting to walk-the-walk on our operational side," he says. "This is evident in our energy efficiency improvements to our infrastructure, but we are also doing a lot of work in behavioural change."

Here are just some of the innovative projects at the Townsville campus:

## WASTE MACHINE

Launched this month, the technology from local company VRM, is set to change the world of waste management. The Bio-Regen unit processes kitchen waste from across the university to form a liquid fertiliser that's used on the campus gardens. Adam says this prototype is an Australian first and will help to improve soil quality while saving half a tonne of food waste a week previously destined for landfill.

## TROPECO SHIELD

Students at the university's seven colleges (where the 1500 residents live) compete each semester for the TropEco Shield. This is awarded to the most environmentally sustainable college based on the semester's theme. 'Green reps' are provided to help students with training and support in sustainability-related areas. Adam says the initiative is about reducing individuals' environmental footprints through fun and educational activities.

## BIKE SHARE PROGRAM

Students and staff will soon be able to avoid parking hassles while getting fit and helping the environment with TropEco's Bike Share initiative. The program will provide 20 bikes for hire free of charge that are situated around the campus and – along with the introduction of subsidised bus passes – is a step towards transport sustainability.

## ENERGY MANAGEMENT SYSTEM

JCU uses an Energy Management System (EMS) to measure the energy consumption of most of its buildings. This year it is rolling out energy consumption screens in building foyers to provide users with real time data of their building's energy use. This tool will help staff and students reduce their energy usage in their building by creating awareness of consumption.





**CAMPUS DISTRICT COOLING SYSTEM**

The largest chilled water tank in the southern hemisphere, Adam says the technology was introduced after JCU identified that 60 per cent of its electricity consumption stemmed from air-conditioning requirements. Each building had its own air-conditioning plant, and many of these were inefficient, outdated and in need of replacement. But instead of updating them, the system was centralised, with chilled water being held in a large steel tank, much like a battery. The water is chilled at night using low tariff energy sourced outside peak demand times and is supplied to buildings via a network of underground pipes. Adam says this system has allowed JCU to cut 40 per cent off its power bill and take pressure off the grid at peak times in summer.

**HUMAN BEHAVIOUR CHANGES**

JCU has identified a number of wasteful behaviours to target. A simple example is students and staff being asked to turn off computers and lights at night. If people forget, security will turn them off on their patrol, but also leave a friendly reminder note containing some facts about energy consumption. Adam has also been working with the JCU gardeners to reduce water wastage and the IT department to slash paper consumption by doing simple things like setting all printers to two-sided copies by default. The HR department has also gone digital and all payslips are now electronic.

For more about JCU's sustainability projects visit [jcu.edu.au/tropeco](http://jcu.edu.au/tropeco).

IMAGES L-R | CDC AND SOLAR BUGGY –CAMPUS DISTRICT COOLING SYSTEM TANK AND ONE OF JCU'S SOLAR/ELECTRIC POWERED GOLF CARTS. PHOTO BY ADAM CONNELL ■ ENVIROBANK LAUNCH – A STUDENT USING THE ENVIROBANK RECYCLING MACHINE. PHOTO BY CRAIG MCDONALD ■ TROPECO BANNER –TROPECO BANNER AT A COMMUNITY GARDEN WORKSHOP. PHOTO BY KRISTOF SCHRADER ■ WESTER COURTS – WINNERS OF THE TROPECO SHIELD FOR FIRST SEMESTER 2011. ABDEL NAYFEH, MINA MINA (KNEELING), CHRIS HANNA, DANIEL CHARLES, LORI TURNER AND ISMAIL ARAKJI. PHOTO BY CRAIG MCDONALD ■ COSTA TROPECO LAUNCH –ADAM CONNELL (JCU ENVIRONMENT MANAGER), COSTA GEORGIADIS (COSTA'S GARDEN ODYSSEY) AND LEON VAN WYK (PERMACULTURE TOWNSVILLE) AT THE ROTARY EDIBLE GARDEN DURING THE TROPECO LAUNCH IN FEBRUARY. PHOTO BY CRAIG MCDONALD ■ ENVIRONMENT MANAGER ADAM CONNELL DISPLAYING THE NEW AWAY FROM HOME RECYCLE BINS ROLLED OUT AT THE TOWNSVILLE CAMPUS. PHOTO BY CRAIG MCDONALD.