



Regency International Centre is working to keep food waste out of landfill

## Case Study

# UPCLOSE

Zero Waste SA Industry Program

**tafeSA**

## TAFE SA Regency Campus eats into food waste

TAFE SA Regency Campus in Adelaide is a global centre of excellence for learning in hospitality and food preparation.

The campus hosts the Regency International Centre, the largest campus of its kind in the Southern Hemisphere with industrial-sized facilities for cooking, bakery, butchery and brewing.

This is food training on a grand scale – and a major by-product of the operation is tonnes of organic and solid waste.

A waste recycling program for a campus the size of Regency requires careful planning, effective communication between multiple stakeholders and a major culture change.

Despite its best attempts, the campus had been unable to identify community organisations able to take its leftover food on a regular basis and was keen to explore other avenues.

In 2008 Zero Waste SA commissioned the first of two assessment reports to evaluate the various waste streams and plan a way forward.

The initial report highlighted the extent of the challenge. It estimated that every month the campus generated more than 27 tonnes of waste, and almost all of it was ending up in landfill.

TAFE SA Regency Campus initiated a pilot recycling program with a strong focus on capturing leftover food, which accounted for about a quarter of all waste.

Now staff and more than 8000 students, along with cleaners and waste contractors, are displaying the cooperation needed for the program to succeed.

TAFE SA Regency Campus now plans to extend the program throughout the campus.

“It was critical to have the other staff on board because if they didn’t support our recycling initiatives it was unlikely the students would take any notice. It’s all about changing habits and inspiring people. In the end we had students volunteering to police the program.”

**Karen Williams**

Senior Cookery Lecturer  
Regency International Centre



**Government of South Australia**

Zero Waste SA

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Students have a vital role in the recycling program

“ Good housekeeping and dealing with waste is increasingly expected in the workforce so we’ve now made recycling part of our training program. ”

**Karen Williams**  
Senior Cookery Lecturer  
Regency International Centre

## ENVIRONMENT ACTION FORUM

Sharing knowledge with other institutes and campuses of TAFE SA is an important part of the sustainability program.

Regency campus is part of TAFE SA Adelaide North Institute which has a Sustainability Action Committee to support and coordinate greening activities. Representation by the various campuses promotes awareness-raising and sharing of ideas.

Such close collaboration is also necessary to coordinate procurement and facilities management, and to ensure greening initiatives are considered in any building upgrades.

For example, the TAFE SA Regency Campus recycling scheme not only required new bins and space to accommodate them in the kitchens, but a \$12,000 compound also needed to be built to enable storage and cleaning of this increased number of bins.

## Sustainability objectives

Reducing waste to landfill with a major focus on establishing recovery and recycling options for leftover food and organic waste.

## Outcomes

- development of a sustainability program
- recycling initiatives cut waste to landfill
- significant reduction in food waste
- strong staff participation encourages student support

## Zero Waste SA support

- funding of a preliminary waste assessment report
- support for green program implementation
- advice on new sustainability initiatives
- follow-up waste recycling study
- development of a case study
- meeting community expectations
- recycling part of student training

## Recycling outcomes

Material	June 2008 – May 2009	June 2009 – May 2010
<b>Co-mingled*</b>	4 tonnes	9.25 tonnes
<b>Food/organics*</b>	21 tonnes	33.5 tonnes
<b>Paper and cardboard</b>	28 tonnes	32 tonnes
<b>Average recycling rate**</b>	11%	20%
<b>Material diverted to alternative fuel</b>	0%	59%
<b>Total diversion*** (% material diverted from landfill)</b>	11%	79%

\* Pilot introduced February 2009, before which all co-mingled and food/organics went to landfill.

\*\* Includes all materials recycled, not only those listed.

\*\*\* Recycling plus material diverted to alternative fuel introduced.



A three bin recycling system has increased recycling rates from 11% to 20%

## Management review targets waste streams

Reducing the amount of food that ends up in landfill is a priority of Zero Waste SA.

As organic material breaks down it becomes a major source of methane gas with a global warming potential more than 20 times greater than carbon dioxide<sup>†</sup>.

To help minimise the impact, Zero Waste SA has been working closely with hotels and other large-scale caterers to find recycling alternatives. The volume of organic waste generated by TAFE SA Regency Campus made it an obvious partner for Zero Waste SA's Industry Program.

A waste management assessment funded by Zero Waste SA in 2008 explored all waste streams generated by the Regency International Centre at its kitchens, student accommodation and cafeteria.

It estimated that 93% of the 27 tonnes of waste produced by the campus each month was ending up in landfill. A large proportion of it was organic waste and single-use food containers.

The assessment also reviewed the recycling efforts already established by the campus for recycling paper, cardboard, waste cooking oil, scrap metal, e-waste, printing cartridges, garden waste, and mobile phones.

## Developing an effective recycling program

The 2008 assessment report did not just highlight the size of the institute's waste footprint, it also outlined a series of measures to dramatically expand the rate of recycling.

Most recycling programs need a 'green champion' to drive through change in the early stages and senior cookery lecturer Karen Williams took on the role at the Regency campus.

Regency representatives visited other organisations with large-scale food preparation to assess how they dealt with waste.

Initially Regency considered an in-vessel organic waste management system but the size of the bins presented a health and safety issue.

They opted to trial a three-bin system in eight college kitchens. The organic waste in one bin was collected by a garden supply company for turning into compost, the second bin held co-mingled recyclables such as bottles, cans and plastics, and the third bin took general waste.

The addition of three 140-litre bins in each kitchen to replace small bins at the end of each student workbench meant significant reorganising in some of the work spaces.

Karen Williams said the success of the program hinged on it being easy to implement. With this in mind colour-coded bins were adopted in line with accepted industry standards.

"We did have some contamination to start with but the cleaners – who have to empty and clean the bins – would alert us to any issues."

To monitor the program's effectiveness, Regency campus receives regular updates from its waste management contractor on the volume and weight of different waste streams.

In one year (2008–09 to 2009–10), the amount of co-mingled material captured and recycled more than doubled, and food/organic material sent for composting increased from 21 tonnes to 33.5 tonnes.

## Collaboration key to program success

The follow-up study into the Regency campus recycling program found that collaboration between the campus and other agencies has been critical to the program's overall success.

"The Regency campus has made great progress in improving their waste systems and implementing the organics and co-mingled recycling systems in the classrooms," says the report.

"Importantly, they have involved both the cleaning staff and waste contractor in the program, ensuring buy-in from the key stakeholders and also valuable input."

The instigators of the program meet regularly with TAFE SA Regency Campus managers and Zero Waste SA to review progress and consider new initiatives. accurate reporting.

<sup>†</sup> [www.epa.gov/methane](http://www.epa.gov/methane)

## Green light for expanded sustainability program

TAFE SA Regency Campus is now introducing measures to improve and expand its sustainability program.

While the recent review found the three-bin system was working well, the associated costs have been higher than expected due to the need for bin liners and regular cleaning of the bins in food areas.

To keep costs down, the report suggests reducing the number of collections so that bins are not being removed while part empty.

The management team is now working on rolling out the three-bin system in other areas, including the hotel school, butchery and bakery kitchens.

Recycling has also been introduced at Regency International House, which accommodates about 180 students on site, and in the student cafeteria.

Other sustainability initiatives already implemented or being considered include:

**Garden waste** – using clippings and trimmings from the campus grounds for processing into mulch and compost rather than sending them to landfill.

**Dish washing** – developing a new dishwashing system to avoid wastage of water and detergent.

**Fluorescent tubes** – introducing a cost-effective recycling scheme to keep about 2000 tubes a year from landfill.

**Computers** – refurbishing surplus IT equipment for schools and community groups through a Department of Education and Children's Services computer recycling program.

**Waterless urinal** – implementing a waterless urinal system as a student plumbing project in partnership with Desert Eco Systems to evaluate potential savings.

**Upgrade of plumbing tapware** – installing new water efficient tapware in the plumbing building as part of a student program.

**E-waste** – processing electronic equipment by SITA Environmental Solutions at its e-waste recycling facility.

**Wash down facility** – constructing a purpose-built washdown facility using 100% stormwater for cleaning vehicles and equipment in the sport and recreation program (an underground storage tank holds 20,000 litres and recycling capacity is 80% with mains backup).

**Renewable energy** – installing solar panels and wind turbines for power generation to light classrooms in a trainee electricians program.

**Meat waste** – collecting leftover meat by a pet food manufacturer.

**Waste cooking oil** – collecting and recycling waste cooking oil by SITA Environmental Solutions.

**Printing cartridges** – recycling all printing and photocopying cartridges, toner bottles and cartridges through the Ricoh Toner Cartridge Takeback Program.

**Photocopiers** – disposing of photocopiers through the Ricoh-sponsored Machine Recycling Program, which dismantles equipment and, where possible, reuses and recycles components and materials.

**Mobile phones** – disposing of mobile phones through the Australian Mobile Telecommunications Authority's Mobile Muster program.

## Team effort

The success of the TAFE SA Regency Campus sustainability program was the result of a team effort across different organisations. The key players included:

- Irene Kathreptis and cleaning staff, Spotless Services
- James Weir, Spotless Services Facilities Management
- Glenn Stone and Andrew Corcoran, SITA Environmental Solutions
- Karen Pillen, Assets and Procurement, TAFE SA
- Karen Williams, TAFE SA Regency Campus
- Sharon Ede, Zero Waste SA.

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Published April 2012 • FIS 91392

## TAFE SA Regency Campus

The internationally renowned and multi-award winning Regency International Centre for Hospitality, Tourism and Food Studies is the largest provider of vocational education and training to the South Australian hospitality industry. Each year the centre delivers courses in hospitality management, cookery, patisserie, tourism, bakery, food science and meat studies to more than 8000 students, including about 1000 from overseas.

**www.regency.edu.au**

## Zero Waste SA

A South Australian Government agency that advances improved waste management policies and the development of resource recovery and recycling. The Zero Waste SA Industry Program advises and supports companies to achieve sustainability goals in waste, water and energy.

**www.zerowaste.sa.gov.au**



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