

CANOLFAN CONWY CENTRE, Anglesey



The Rocket® In-vessel Composter is manufactured and distributed through **Accelerated Compost Ltd**. Head Office in Cheshire and representatives in Perthshire, East Sussex, County Wexford and Worcester ensure UK-wide distribution and prompt after sales service.



The Rocket® is currently being used as a solution to the food waste disposal problem for small scale commercial and industrial applications throughout the UK from Community Composters to Schools and Colleges, Hotels, Restaurants and Estates.



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THE NEED

With increased waste collection costs it became apparent that having thirteen 1,100 litre bins and four 800 litre bins was unsustainable both financially and environmentally. Following an Eco-Audit in 2003 an Environmental Committee was formed to carry out the action plan going forward from 2004. The action plan had three initial aims:

- 1 To reduce the amount of heating oil and electricity consumed
- 2 To reduce the amount of unrecyclable plastic waste generated
- 3 To improve sewage treatment facilities on-site

THE SOLUTION

REDUCE CONSUMPTION OF HEATING OIL AND ELECTRICITY

Following an oil monitoring study a number of ways to reduce the amount of energy consumed were identified:

- 1 New control panel, pumps and valves were installed allowing for zoning of the building. The booking office is now consulted to determine which zones can be "turned off"
- 2 Replacement of two of the three boilers to increase efficiency
- 3 Motion sensors installed in critical areas to reduce energy usage
- 4 Change all light bulbs for energy efficient light bulbs
- 5 All lights switched off and windows closed to reduce heating and electrical costs
- 6 All energy purchased from London Electric's "Green Electricity" supply

REDUCE UNRECYCLABLE PLASTIC WASTE GENERATED AND INCREASE RECYCLING WHERE POSSIBLE

A number of initiatives have been put into place to decrease unrecyclable waste generated on site and increase the amount of materials collected for recycling:

- 1 Waste compactor purchased for cardboard recycling
- 2 Recycling bins in dormitories for the collection of recyclable materials
- 3 All cans removed from site and water bottles introduced to streamline the recycling process
- 4 Paper, glass and plastic bottles collected all over the site for recycling
- 5 All kitchen suppliers to provide recyclable packaging were possible

IMPROVE SEWAGE TREATMENT FACILITIES ON-SITE

Prior to the Eco-Audit the Centre used grease traps and settlement tanks before discharging sewage into the Menai Straits. The BOD readings at this time were around 7000.

- 1 Rationalise kitchen menus to fit in with Healthy Schools programme
- 2 Rationalise sewage process for the entire site
- 3 Rocket® In-Vessel Composting system installed for the on-site treatment of ALL food waste (including meat and fish)
- 4 Bring laundering in-house and introduce Eco-Balls into the process
- 5 Carry out a feasibility study for a Reed Bed

THE RESULTS

ENERGY CONSUMPTION

Heating oil and electricity usage has dropped dramatically and the replacement of 2 boilers has increased heating efficiency from 76% to 93%.

RECYCLING

The amount of bins in the utility/recycling area has been reduced due to the use of compactor and Rocket® In-Vessel Composter.

Amounts of material being recycled (as at end 2006):

Cardboard	353.6m ³
Paper	50m ³
Glass	132.6m ³
Plastic Bottles	136.08m ³

ON-SITE SEWAGE TREATMENT

4,235 litres of food waste recycled through the A700 Rocket® In-Vessel Composter generated enough compost to plant over 1,000 trees on the 160 acre site over the past three years. This has generated savings of £2,060 a year previously spent on emptying the grease traps and settlement tanks. A further £2,200 of fresh water costs is saved every year due to the addition of a food waste dewaterer which is used prior to the composting process.

By rationalising the sewage process across the whole site and installing the Rocket® the BOD readings of material discharged into the Menai Straits have dropped to 260.

Water usage study highlighted a number of small leaks on the system which, once fixed, generated savings of £38,000. CO₂ emissions have been drastically reduced by bringing the laundry in-house instead of making the 120 mile round trip to Wrexham. The use of Eco-Balls in the laundering process makes savings of £1,000 per year on detergent costs by allowing the laundry to be washed in cold water with reduced detergent levels. This reduces the amount of spent detergent discharged into the Menai Straits.

The next step is to carry out a feasibility study into the proposed use of a Reed Bed - this study will take place during 2008.

EXTERNAL RECOGNITION

As a result of the various changes put into place by Canolfan Conwy Centre's Environmental Committee they have been awarded:

- FEE Eco Centre Status
- Level 4 Green Dragon (Arena Network)
- Winners of the Environmental Management System Award for the Public Sector in the Welsh Sustainability Awards

"That was someone's breakfast two weeks ago!"

The multi-award winning **Canolfan Conway Centre** is coming to the end of a three year on-site food waste recycling trial that has proved to be highly successful. The 420-bed residential education centre, one of the largest in the UK, installed an **A700 Rocket® In-Vessel Composter** from Cheshire based manufacturers Accelerated Compost Ltd to process the food waste from around 1,000 meals a day and in October 2007 the Centre was awarded the Environmental Management System Award for the Public Sector in the Welsh Sustainability Awards.

The process towards a more sustainable centre began in 2003 with an invitation by John Pearson, then a part of Cheshire County Council's Environmental Planning Department, to carry out an Eco Audit resulting in an action plan going forward from 2004.

Paul Southall, Buildings and Environmental Supervisor, "Changes were made in the Centre's tuck shop to reduce unrecyclable waste and initiatives were set up through the kitchen suppliers to provide recyclable packaging on all food items where possible. The kitchens have a lot to deal with averaging 1,100 covers a day. This is around the same amount produced in an average secondary school."

On-Site Food Waste Processing

All food waste is put into sealed containers by the kitchen team and three times each day this waste is put into the Rocket® by the Maintenance & Groundworks team. In 2006 4,235 litres of food waste was processed through the Rocket®.

"The Rocket® composter is fabulous. Prior to the sewage rationalisation process carried out on the entire site and the Rocket® being installed the BOD readings for material being released into the Menai Straits was around 7,000. Since then it has dropped to 260 and we have saved an astonishing £1,400 a year on emptying the grease traps and £660 a year on emptying the settlement tanks. A further £2,200 of fresh water costs is saved every year due to the addition of a food waste dewaterer, which is used prior to the composting process. Along with the reduction in waste disposal costs and purchasing costs for compost materials the Rocket® has paid for itself in the three years since the installation," Paul enthuses.

These achievements have not been overlooked by external agencies and the Conway Centre has been awarded FEE Eco Centre status, Level 4 Green Dragon (Arena Network) and in October 2007 the Centre won the Environmental Management System Award for the Public Sector in the Welsh Sustainability Awards.

Paul explains, "This is a Whole Life system that provides an outstanding teaching tool for visitors to the Centre. All 70 staff at the centre are local people committed to recycling more and becoming more sustainable."

Visitors can easily compare the experience they have in terms of managing waste and energy resources here at the centre with their experiences back at their schools allowing them to take positive ideas back home to make worthwhile contributions in their own communities in the future."



"We are now at the end of the final year of a three year study and if the Rocket® didn't work it would be going back to the manufacturers. But it does work. We are closer to achieving our sewage treatment targets having seen the BOD readings drop so dramatically, we have saved money on waste collections, and it provides a useful product - compost - that has been used over the past three years to plant more than 1,000 trees on our 160 acre site. We are one of the largest employers on the island and our site is of prehistoric importance, it seems only natural to preserve the future after working for so long to preserve the past. The Conway Centre has provided the ideal pilot scheme for testing this system of food waste management and if it works here it can work in every school in the country."

Making the utility/recycling area accessible to the children who visit the centre has increased their awareness of the consequences of producing waste and the environmental benefits of recycling.

Paul concludes, "It's great to see the visitors faces when they see the compost and are told, 'that was someone's breakfast two weeks ago!' It really brings the process home to them."

A700 ROCKET® IN-VESSEL COMPOSTER

The mid-range A700 is capable of processing up to 700 litres of mixed food waste per week. Thermostatically controlled to ensure temperatures greater than 65°C are maintained for more than 2 days the average power consumption is as little as 70kwh per week. Fully automatic and measuring 3m long by 0.9m wide and 1.6m high the A700 is probably one of the most versatile small scale in-vessel composting systems currently in use in the UK.