

Getting Wise In Wales

Costa Athanatos of Jacobs UK explains how Wales is getting on top of its National Waste Strategy objectives, and composting has a big role to play

The National Waste Strategy for Wales 2002 (Wise About Waste) recognises the need for the development of significant waste management infrastructure in order to achieve sustainable waste management objectives and comply with stringent targets set by the increasing number of relevant EC waste directives and UK legislation.

The need for infrastructure development was also recognised in *Planning Policy Wales and Technical Advice Note 21: Waste* (TAN 21), which recognises that the land use planning system has an important role to play in facilitating sustainable waste management. In order to achieve this, TAN 21 sets out a regional waste planning process to assist in the delivery of identified waste management facilities in Wales.

Wise About Waste establishes a challenging, but realistic, programme of change for the next 10 years and is designed to move Wales away from its over-reliance on landfill towards a more sustainable way of waste management. It includes measures to increase the use of recycled and composted materials by businesses and the public sector in Wales. In fact, targets likely to have the greatest impact on households and local communities are for the recycling and composting of municipal waste.

Under the EU Landfill Directive the UK also has to meet targets for the reduction of biodegradable municipal waste (BMW) sent to landfill. By 2020 it must be reduced to 35 percent of the amount produced in 1995. In Wales, this is being achieved through the Landfill Allowance Scheme (LAS), which limits the BMW local



Funding provided in Wales means this £1.3m in-vessel composting facility is one of three regional demonstration facilities being developed

authorities are allowed to send to landfill. Composting is seen as a vital tool for achieving these targets; the Welsh Assembly Government (WAG) is providing substantial additional funding to assist local authorities and others in achieving them.

Wise About Waste also commits the WAG to work with organisations to develop the appropriate techniques and markets for compost separated out and processed from municipal, commercial and industrial wastes.

The WAG is providing a £750 000 per annum contribution towards WRAP's activities to increase compost markets throughout the UK and has invested a further £150 000 to fund the appointment of a compost co-ordinator to develop specific projects in Wales.

One such project making use of the funding is at Bryn Compost Ltd, near Caerphilly. This £1.3m in-vessel composting facility is one of three regional demonstration facilities being developed in Wales as part of a joint

initiative between the WAG, the EU and The Wales Environment Trust.

Through its Objective 1 Programme – a designation given by the EU to the most deprived regions in Europe whose wealth, or gross domestic product, is lower than 75 percent of the EU average – the EU has also provided funding for this project. This covers West Wales and the Valleys, including the whole of the Bridgend County Borough and has provided around £1.2bn of EU grant aid between 2000 and 2006.

Bryn Compost is privately owned and was set up as a farm diversification business in 2005, based on a large dairy farm offering an in-vessel composting service to local authorities and food waste producers as an alternative to landfill. The farm began to diversify into quarrying and landfill in the 1980s, forming Bryn Quarry in 1996 to recycle hardcore, soils and builders' rubble. In 2000 it began converting green waste into quality compost.

Bryn Compost was formed in partnership with the Wales Environment Trust and Merthyr Tydfil and Torfaen County Borough Councils in order to build the first in-vessel composting facility unit in Wales accepting mixed catering and green waste. Today this side of the business processes around 35000 tonnes of garden waste per annum and three-year

(ABPR). In addition, it does not accept cardboard as feedstock in the composting process due to issues with contamination. This is achieved through a comprehensive information campaign, which has resulted in the collection of material of a very high quality with minimal contamination. According to Bryn Compost, this is considered key to the production

pumped through a bio-filter composed of woodchips and over-sized compost for a retention time of 20 seconds. A bio-aerosol test is also carried out on the gases on a quarterly basis to ensure that bio-aerosol levels, after the gases have been treated, are within acceptable and safe levels. Samples of compost are sent to a laboratory for *salmonella spp* testing in accordance with the ABPR to ensure that pathogens are within acceptable and safe limits.



According to Bryn Composting its source-segregated green waste compost has achieved PAS-100 certification

partnerships have been developed with both councils for the supply of source-segregated kitchen waste.

The in-vessel composting is based on a system of fully sealed tunnels operating a high volume aeration system with associated controlling software and exhaust air treatments. Six tunnels, each with a capacity of approximately 300 tonnes, operate a two-barrier process, in which the first barrier must be a closed vessel and the second need not, but it must meet all treatment standards. A negative pressure is applied to the reception building with all exhaust gases being passed through a bio-filter treatment to eliminate odours and reduce bio-aerosols to safe and acceptable levels. The in-vessel composting process involves three distinct stages, which result in the production of high quality compost.

Stage 1: Feedstock

BRYN COMPOST accepts category three catering waste, but not category three animal by-products as defined in the Animal By-Products Regulations

of high quality compost, which the market demands.

The waste is initially unloaded into a concrete storage area before being passed through a shredder to be reduced to 40cm particles. Prior to this, a visual inspection ensures that no unacceptable materials are allowed to enter the system.

Stage 2: Composting

THE SHREDDED food and garden waste is placed into the first section (barrier one) of the six fully sealed tunnels. After a period of between three and seven days of sustained forced aeration, the required temperature of 60°C is achieved and maintained for 48 hours.

After this time the partly composted waste material is transferred into the second section (barrier two) of the sealed tunnels for a further 48 hours at 60°C.

Hot air is re-circulated throughout the tunnels, aiding in controlling the temperature. During this process, the exhaust gases are extracted from the sealed tunnels through extraction funnels located on the ceiling and

Stage 3: Maturation

THE COMPOST is transferred to the outside maturation area, which is constructed of an impermeable concrete pad, where it is stored in windrows. The maturation period lasts approximately 16 weeks, after which the compost is screened to a particle size of 40mm.

The majority of compost produced at the site is used as a soil conditioner, for soil blending and landscape restoration.

According to Bryn Compost, its source-segregated green waste compost has achieved PAS-100, the specification that composted materials must meet in order to achieve the independently verified Composting Association accreditation. Compost originating from catering waste is yet to be accredited, but Bryn Compost is working towards achieving this standard.

The WAG has set stringent composting and biodegradable LAS targets. Composting is considered crucial in helping Wales achieve these targets. As such, there has been great interest expressed by other local authorities in sending catering waste to the facility. As the first in-vessel composting facility in Wales licensed to accept such wastes, Bryn Compost anticipates the need to double the capacity of the facility in the near future, with a further six-tunnel in-vessel system. The facility has created four permanent jobs, with the potential for more if capacity does increase. [CIWM](http://www.ciwm.co.uk)

Visit www.bryngroup.co.uk or call +44 (0)1443 838121 to arrange a visit to the facility