

## University of Wales, Bangor leads in project using wastes to create soil and clean-up land TWIRLS: Treating Waste for Restoring Land Sustainability



Producing compost to revegetate slate waste tips in Wales.

**TWIRLS** is funded by the European Commission **Life**-Environment programme and by our partners Alfred McAlpine Slate Ltd, UPM-Kymmene (UK) Ltd, Welsh Development Agency and NAGREF-Soil Science Institute of Athens. The project runs from October 2004 to October 2007.

The **main objective** of TWIRLS is to demonstrate the safe use of industrial and domestic wastes for the

remediation of post-industrial, degraded sites to socially and environmentally valued land. This impacts on EU Directives on Landfill, Waste Framework, Soil Framework and Habitats as well as climate change.

Of the 100 million tonnes of waste sent to landfill in the UK each year, two-thirds is biodegradable organic matter from households. As a sustainable alternative to landfilling, we are developing novel methods for **co-composting** different

wastes **in-vessel**, such as greenwaste, digested sewage cake, quarry fines and deinking paper sludge. Production of leachate and odour is minimal and pathogen kill effective.

Composts created from these wastes can be tailored to specific end uses; for example, we are producing composts to meet the soil requirements of particular plant species and **habitats of high biodiversity value** to revegetate post-industrial land. We are also using composts to **bioremediate contaminated soil *in situ*** (increasingly important since the EU Landfill Directive (1999) has led to a significant reduction in the number of landfill sites licensed to receive hazardous waste) allowing sites to undergo economic regeneration.

Our main **dissemination outputs** from TWIRLS include Best Practice Manuals

on composting wastes for land remediation and habitat creation and training workshops held throughout Europe.

For more details, visit our project website [www.bangor.ac.uk/ies/TWIRLS/TWIRLS\\_home.htm](http://www.bangor.ac.uk/ies/TWIRLS/TWIRLS_home.htm)

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