



RECYCLING IN THE WESTERN ISLES



Landfill Operation at Bennadrove Landfill Site

Approximately 30,000 tonnes of waste are produced each year in the Western Isles and most of this waste is disposed of to Landfill Sites at Bennadrove and Rueval.

For a number of years now, Comhairle nan Eilean Siar has been developing systems and processes to try to separate and recycle some of this waste material and divert it from Landfill. Currently we only recycle 9% of the waste collected but it is hoped that we will be recycling at least 25% of our waste by the end of 2006.

The Council now have a Waste Aware team of four officers (one based in Uist) dedicated to delivering a campaign to promote reduction, reuse and recycling of waste created in the Western Isles. The Waste Aware Team can be contacted by: telephone on 01851 709900, e-mail wasteaware@cne-siar.gov.uk or visit the website on www.cne-siar.gov.uk/recycling



NEWSPAPERS AND OFFICE PAPER



The plant to process and shred paper into animal bedding was commissioned in January 2001. Trials of the material as a bedding substitute have been undertaken with cattle, horses, sheep and poultry. Feedback has been very positive and the product is now on sale throughout the Western Isles.

All indications are that the paper bedding is more effective than straw as it is warmer, free from dust and mites and in some applications a bale goes further than a conventional straw one. Paper is collected from commercial premises, households taking part in the Kerbside collection scheme and paper deposited in the blue paper recycling banks.



Surplus paper is sent in bulk to the mainland for processing into paper pulp and is collected using specially designed Paper Banks. The Council have recently purchased new larger Paper Banks to cope with the quantity of paper being deposited in them. These banks can take **newspaper, waste paper, magazines, brochures, telephone directories, yellow pages** and greeting cards, but **not** envelopes, plastic bags, cardboard, large clips, binders and books.

PILOT KERBSIDE COLLECTION SCHEME



Phase 1 of the Pilot Kerbside was rolled out in April 2005 and was designed to test the performance of different collecting systems. Phase 2 was rolled out with the wheelie bin system as this had emerged as the preferred system for householders. By February 2006 the pilot kerbside collection service had been offered to over 3,700 households in the Stornoway area with a sign up rate of 57%.

END OF LIFE VEHICLES

Comhairle nan Eilean Siar is the only Local Authority in Scotland to offer a free uplift service for domestic End of Life Vehicles and with help from European Funding purchased the only mobile car baler in the UK which is permanently fixed to an 8-wheel lorry chassis. This baler is able to be driven to any licensed site in the Western Isles, including Barra.

During the year, 2003 –2004, over 2000 vehicles were removed from the Western Isles and sent to the mainland for recycling. This is one vehicle for every 14 people in the Western Isles.



Having a baler based in the Western Isles has proved invaluable, not only for the baling of cars, but also for the ability to bale any other metals, including fence wire, all of which are removed from the waste stream at Bennadrove and Rueval Landfill Sites.

MOTOR OIL

Waste motor oil recycling has been in place at Bennadrove for five years now and we receive approximately 150 tons of oil each year from garages throughout the Western Isles. The oil is de-watered and then sent to the mainland for re-processing.

The Comhairle is working with SEPA to make sure that all businesses who produce waste oil take their oil in for recycling.

CAR BATTERIES

Any lead-acid batteries received on site are removed from the waste stream and sent to the mainland for recycling.

TYRES

All tyres are now removed from the waste stream, stockpiled and baled. The bales are then used for engineering purposes on site.

The first application of this construction method in a landfill site took place at the Rueval Landfill site and great interest is being shown in this from other areas of the waste management sector.

The new horizontal baler at Bennadrove, also used to bale plastics, is one of the first in the UK to be adapted to bale tyres. Approximately 170 tyres are baled into a block which weighs around 800 kg.

CFC's (fridge gases)

All fridges and freezers that arrive at either landfill site are exported to the mainland to be processed using equipment that ensures that all CFC gases contained in the fridges or freezers are collected.

SHREDDING AND SCREENING OF WASTE

The Comhairle has just purchased a large Shredder and a Trommel Screen. All of the waste from the bin lorries and the Community Skips will be sorted and shredded before being passed through a large Trommel (rotary) Screen. By using magnetic separation to remove steel and an air knife to remove light plastics and paper it is hoped that any organic material and fines such as ash can be removed from the waste stream and diverted from landfill.

The Comhairle also has a pre-composting shredder/mixer, powered by a large tractor, and a small In-vessel composter. The material collected from the Trommel Screen will be composted along with green waste sorted from Community Skips and Civic Amenity Sites.



The composted material will initially be used either as landfill cover material or as soil improver.

THE FUTURE NEW WASTE MANAGEMENT PLANTS

Work started on a state-of-the-art recycling facility in Lewis in July 2005 costing £10 million. The main plant Creed Park Environmental Centre, Stornoway, will be the first in the UK to use anaerobic digestion of organic waste (kitchen, garden and paper waste). Organic waste will be collected and taken from all households in the Western Isles and taken to the centre in Stornoway. The centre will produce biogas from the process, high grade compost, liquid fertiliser and low grade soil conditioner.

Other dry recyclables (paper, glass, cans and plastics etc) will also be processed at the facility. Glass will be processed into SiarGlass garden aggregate, newspapers into SiarShred paper animal bedding and cans and plastic baled and transported to the mainland for processing into new materials.

The Creed Park Environmental Centre will also include a visitor and education facility with a high level viewing gallery overlooking the entire waste treatment process. Also being built is a waste transfer station at Market Stance in Benbecula, Uist which will be used to transfer all organic waste from the Uists and Barra to Stornoway. There will also be equipment to process some recyclables at the Market Stance Recycling Facility. It is expected that the project will be completed in October 2006.

EarthTech
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Western Isles Integrated Waste Management Facilities

The main waste treatment facility, situated in Stornoway on the Isle of Lewis, will be the first plant in the UK to incorporate anaerobic digestion of source-separated biowaste (food, paper and garden waste) on a commercial scale. The Lindt dry-digestion technology lies at the heart of the process. The biogas produced is used to generate up to 2 million kWh of electrical power annually for export to the local network, whilst the solid digestate is matured to produce a high-quality compost for local use.

Residual waste is mechanically screened, firstly to separate out metals for recycling, but primarily to produce an organic-rich fraction. This is then treated in a series of HotRot composting vessels to produce a low-grade soil conditioner for use in landfill restoration. Both the AD and the In-Vessel Composting system are fully compliant with the Animal By-products Regulations.



Incineration Technology Pollution Control Mechanical Biological Treatment
Environmental **Energy from Waste**



A BETTER TOMORROW made possible

EarthTech
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Western Isles Integrated Waste Management Facilities

In March 2005, following competitive tender, Earth Tech were awarded the contract by Comhairle nan Eilean Siar (Western Isles Council) to design and build two integrated waste management facilities.

These new facilities will act as the cornerstone for the Council's municipal waste management service delivery, allowing it to not only meet but exceed the challenging targets for recycling and landfill diversion that have been set by the Scottish Executive. This will ensure that the Western Isles is able to play its part in helping Scotland meet the requirements of the European Landfill Directive.



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