



Rural Glass Recycling Forum – Report of Shetland Workshop, December 05



Eniroglass Tile made with recycled glass

In order to assist in the development of more sustainable waste management in rural areas, Remade has established a Rural Glass Recycling Forum to encourage knowledge transfer between rural organisations. An inaugural workshop was held in Shetland on the 12th and 13th of December 2005. This document provides a report of the activities and outcomes of the workshop

Attendees –

- Joyce MacLean (Arran Recycling Community Organisation)
- Tony Edwards (Bute Recycling Centre)
- Steve Killeen (Orkney Islands Council)
- Lee Bohanna (The Coachhouse Trust)
- Mick Clifton (Shetland Amenity Trust)
- Chris Massey (Shetland Amenity Trust)
- David Buchan (Remade Scotland)

12th December 2005

The first day of the forum concentrated on collection systems and technologies. None of the island groups expressed a problem with the collection systems used or the sustainability of supply. Although there is no colour segregation on the islands, there was a feeling that the only colour which would be of any value would be blue (cobalt) and the volumes of this in the waste stream would be very low indeed.

Mick Clifton of SAT/Eniroglass then presented the development of the glass recycling service and the Shetland Amenity Trust in the Shetland Islands, including their technologies. A problem they are having is with paper labels stuck to the bottles which forms a major contaminant. This did not seem to be a significant problem with other crushers. However, the nature of glass itself was proving to be a significant hurdle due to its highly abrasive qualities and subsequent wear

and tear of the crushing equipment. This has caused substantial overhead costs due to hammers having to be replaced at frequent intervals. A comparison of the Allu Bucket, Arboreater and the Shetland system of:



Glass Processing on Shetland

1. Hopper
2. Primary breaker
3. Heavy duty pulverizer
4. Contaminant removal screen
5. Dryer
6. Enclosed tier sieve
7. Dust extractor
8. Bagging equipment

was made. The Shetland system is used exclusively for glass, whilst the Arboreater can also process wood and cardboard (for animal bedding). The Allu Bucket is a heavy-duty piece of equipment used on the Orkney Islands as part of their quarrying stone-crushing operations – as things stand, the entire annual collection from the Orkney Islands (approx. 600 tonnes) can be processed in a matter of three days. However, contamination by glass is a major drawback and the entire operation requires downtime for cleaning between glass-crushing days. It was decided to cooperate more closely on technical matters so an exchange of information regarding good (and bad) practice could take place between islands.



Decorative Aggregate

The day officially ended with a visit to the SAT glass recycling plant in Cunningsburgh, touring the various technologies used. The mixed cullet was shown prior to separation in their tiered sieve system and the various products post-separation (garden pebbles, shotblast, sand) were also demonstrated. We then were shown the concrete workshop where many of their products are made. The Shetland Amenity Trust / Enviroglass has invested a lot of time and money into



Concrete product with recycled glass

Research & Development and their main products of glasscrete slabs, shotblast and garden beads are doing well in the local market.



Decorative Slab

The Shetland Amenity Trust has also been commissioned to produce more specialised products from recycled glass such as litter bins for the local council and paving slabs with inlaid stone with traditional words or Viking themes for the floor of the new Shetland Museum. These highly decorative objects have taken a fair amount of time in research and development but the delegates were all very impressed with the standards and quality of the products made there.

The evening finished with a dinner at the Lerwick Hotel, where delegates discussed further the possibilities of exchanging technical information between islands and perhaps standardising product specifications for export to the mainland.



Inlaid Decorative Slab

13th December 2005

The delegates visited the new Shetland Museum – a 10 million Pound harbour-front regeneration programme in Lerwick, due to open next year. The restoration of the old piers has included recycled stone and the building itself incorporates reclaimed timber. Part of the flooring will consist of decorative, inlaid floor slabs made from recycled glass, produced by the Shetland Amenity Trust / Enviroglass (as shown above).

The delegates returned to the Shetland Amenity Trust to discuss marketing strategies. It was obvious that low-value products such as glass garden beads could only be marketed on the islands due to high shipping costs. Now that Shetland, in particular, was producing high-value decorative products, the potential for export to the mainland was now viable. However, it was perceived that the isolation of the islanders could be a real problem in assessing demand and marketing their products on mainland UK. The role of Remade Scotland could be influential in the development and marketing of products from the islands.

The general consensus of the forum was that cooperation and transfer of knowledge between the groups is essential for the development of glass recycling in rural and island locations.

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Shetland Museum