

Case Study

Foundry Sand Reprocessing

Organisations involved: Creasey Castings Limited, H. Sivyer Transport Limited

The Challenge

Creasey Castings is a non-ferrous foundry in Sittingbourne, They contacted NISP out of concern for the rising costs associated with the disposal of their spent foundry sand which is bonded with a furan resin.

Creasey Castings were already using and re-using the sand within their own process, but the sand does eventually need to be replaced, this spent sand was being sent to landfill. In order to save costs and improve their environmental performance Creasey Castings were interested in exploring if another company could use the spent sand in a beneficial way.



Above: Aggregate Reprocessing at H Sivyer Facility

The Solution

The NISP team were able to put Creasey Castings in touch with H Sivyer, an existing NISP member who specialise in the transport and recycling of construction materials.

Seeing the potential for the use of the spent sand as a resource within the construction industry, H Sivyer were able to reprocess the sand using mechanical separation. The sand is now being recycled and sold by Sivyer as a backfill product giving it a new life in the construction sector.

This synergy has created significant cost savings for Creasey Castings and additional sales for H Sivyer, all whilst diverting a material away from landfill which is now converted into a product with applications in the construction industry.

The Results

- **Landfill Diverted: 1,664 tonnes**
- **CO2 Reduction: 170 tonnes**
- **Virgin Materials: 1,754 tonnes**
- **Water: 60 m3**
- **Significant cost savings and additional sales.**

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With the assistance of NISP Sivyer have managed to process thousands of tonnes of Foundry waste sand from Creasey Castings. This material has all been recycled into viable backfill products that we sell.

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This example is typical of the synergies NISP create for those who wish to discard material to those who can make full value from it. The bonus of course is the reduced environmental impact.

Simon Sivyer
Owner
H Sivyer

About NISP

Connecting Industry, Creating Opportunity

NISP is a business opportunity programme which develops mutually profitable links between companies from all industrial sectors so that under used resources such as energy and water, and/or materials from one company can be recovered, reprocessed and re-used by others.

The programme uses actual business opportunity as the mechanism for encouraging resource efficiency and its holistic approach sees it actively dealing with ALL resources including water, energy, materials, logistics, assets and expertise.

NISP is the world's only national industrial symbiosis programme, and its success here in the UK demonstrates that industrial symbiosis has the potential to significantly reduce industrial and commercial waste and comprehensively lessen the adverse environmental impacts of business.

Driven by Business

NISP is unique in that it is a business-led programme, responding directly to the needs of business, whatever sector that may be. It is delivered via 12 regional offices throughout the UK, each of which works with a business advisory group comprised of key industry representatives. This group assists the regional offices to ensure the strategic direction of the programme is right for each respective region.

Free Membership

NISP is funded through Defra's funding for business resource efficiency, the Scottish Government, Welsh Assembly Government, Invest Northern Ireland and selected regional development agencies. Because of the way that it is funded, membership of NISP is FREE for all UK businesses, regardless of size, turnover or sector. 10,000 companies are already working with the programme. These include companies such as Shell UK and Lafarge Cement, as well as entrepreneurs and SMEs (which make up over 80% of NISP's membership).

Partnerships with Purpose

Developing partnerships with purpose is a contributing factor to the continuing success of NISP. The Environment Agency, Resource Efficiency Knowledge Transfer Network, and the Local Government Association each share a unique working relationship with NISP. The programme also works closely with a host of industry trade associations and organisations such as the Chartered Institute of Waste Management and the Institute of Environmental Management and Assessment.

Our Results

In its first three years (April 2005–June 2008) NISP helped its members achieve significant economic and environmental results, including:

- Generating £136 million additional sales in industry**
- Saving businesses over £108 million**
- Attracting £111 million in private investment**
- Diverting 3.8 million tonnes of business waste from landfill**
- Reducing CO₂ emission by 4.5 million tonnes**
- Creating nearly 800 jobs and safeguarding over 1,200 others**
- Reducing industrial water use by 9.2 million tonnes**