

## Case Study

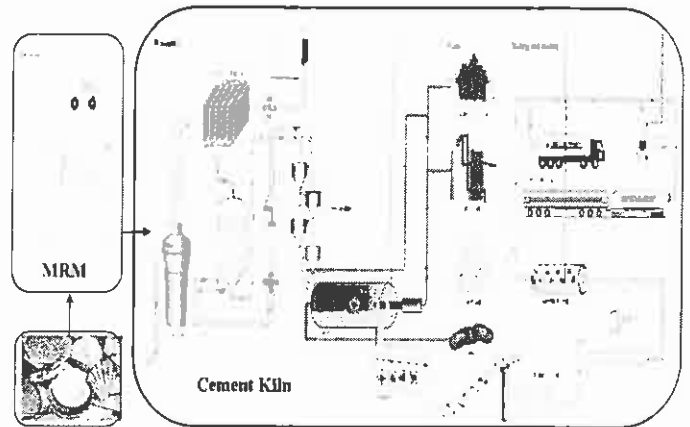
# Scallop shells used in the manufacture of cement.

Participants: MRM, Border Laird

### The Challenge

NISP member, Mineral Resource Management (MRM) was formed in August 2007 and is wholly owned by Hanson Cement (formally castle cement). MRM has developed a recycled Alternative Raw Material for the cement industry called Cemfeed. MRM is dedicated to finding ways of recycling inorganic wastes into the cement industry. By doing this it will increase the sustainability of Castle Cement by enabling it to utilise greater amounts of waste and less virgin raw materials. MRM have a target of replacing a minimum of 200,000 tonnes per annum of raw materials by 2010.

Border Laird is part of the Cumbrian Seafoods Ltd established at Maryport in June 1997 to provide a range of fresh fish, shellfish, coated and added value seafood products to the UK's leading retailers. Border Laird's main activities are the production of fresh and frozen whole scampi and king scallops and is based in Morpeth, Northumberland



Above: Illustration of scallop shells being utilised

### The Solution

NISP facilitated the synergy between MRM and Border Laird by advising Border Laird on the potential of using scallop shells for cement manufacture, given the high calcium carbonate ( $\text{CaCO}_3$ ) content. Border Laird previously had difficulty in finding a home for the waste shells due to the Animal By-Product regulations, introduced in 2003. Under this piece of legislation scallop shells are classed as Category 3 and therefore require an end user licensed to take such material. Due to the high temperatures reached in the cement kiln, cement kilns and MRM are able to comply with a these regulations and are licensed to do so

The use of scallop shells proved successful and in particular help from the Environment Agency ensured that this synergy was successful. The resulting synergy has led to significant cost savings for Border Laird, and provided a more sustainable alternative to incineration without energy recovery which was the previous solution.

### The Results

- Additional Sales: £9,000
- Businesses Assisted: 2
- CO2 Reduction: 700 tonnes
- Cost Savings: £10,000
- Landfill Diverted: 250 tonnes
- Training Outcomes: 2
- Virgin Materials: 250

*This is the first example of using scallop shells for cement manufacture, and will hopefully lead to other synergies alike*

**Juliet Currie**  
Sales Manager  
MRM

## 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 CO<sub>2</sub> 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**