

# Synergjie

Newsletter for the National Industrial Symbiosis Programme

## NISP businesses boost economy

After an extremely successful second year, NISP has assisted its 8,000 plus members in making an even greater impact on both the UK's environment and economy.

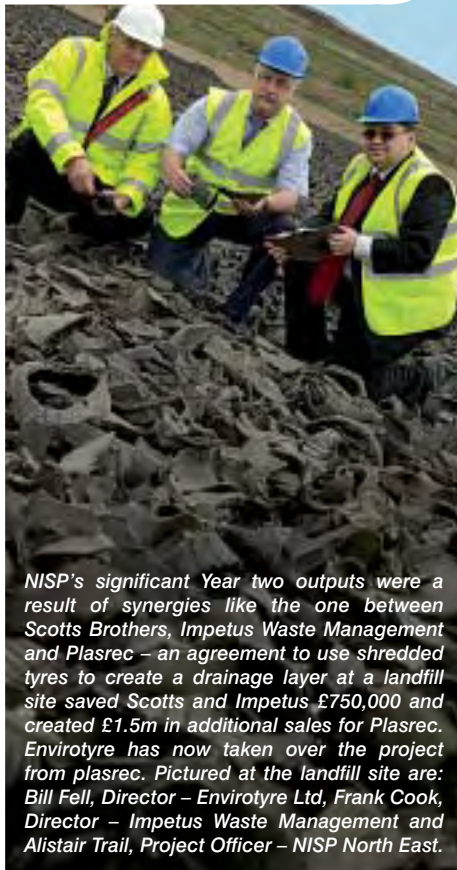
NISP is delighted to announce that member companies have diverted more than 1.7 million tonnes of waste from landfill and reduced CO<sub>2</sub> emissions – an increasingly important challenge for UK companies – by two million tonnes.

The economic impacts are just as impressive, with businesses generating £100 million in additional sales as well as making cost savings to industry in excess of £70 million through reduced waste disposal costs and business diversification. NISP's work has also attracted private investment to the tune of £66 million for reprocessing and recycling facilities across the country.

In addition to expanding its network to 12 regional centres, NISP has continued to grow its membership base resulting in a greater quantity and diversity of outputs.

Director of NISP, Peter Laybourn said: "These results prove that industrial symbiosis is having a phenomenal impact and assisting an ever increasing number of UK organisations to create business opportunities whilst at the same time delivering on the environmental and social side of sustainability."

"As the programme continues to grow I am confident that our unique industrial



*NISP's significant Year two outputs were a result of synergies like the one between Scotts Brothers, Impetus Waste Management and Plasrec – an agreement to use shredded tyres to create a drainage layer at a landfill site saved Scotts and Impetus £750,000 and created £1.5m in additional sales for Plasrec. Envirotyre has now taken over the project from plasrec. Pictured at the landfill site are: Bill Fell, Director – Envirotyre Ltd, Frank Cook, Director – Impetus Waste Management and Alistair Trail, Project Officer – NISP North East.*

symbiosis approach will become the norm between businesses, especially in the UK. NISP itself is eminently scalable and – with our results to date – there is no reason why the programme should not grow to 30,000+ members within the next few years.

"I'm looking forward to this next phase of the programme and working with our existing and new member companies to deliver further outstanding achievements."

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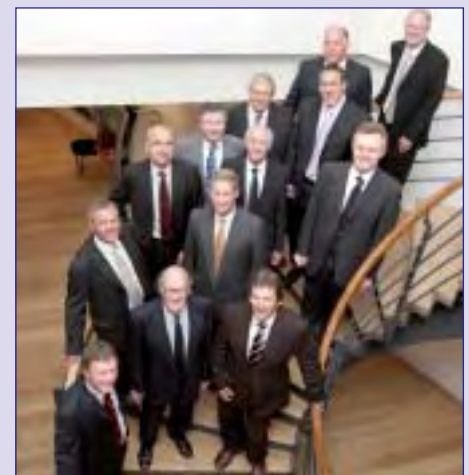
## Recognition for vital role

NISP's success can be attributed to the growing number of industry representatives who give their valuable time to sit on the regional Programme Advisory Groups (PAGs).

To acknowledge this vital role, NISP Chairman, Professor Paul Ekins recently hosted a dinner for the chairs of each of these groups. Business leaders from UK organisations such as Lafarge Cement, Marley Eternit, Veolia Environmental Services, Corus, Roche Products, Viridor Waste Management, Sabc Europe, and Bombardier Aerospace attended the event in Westminster. NISP supporters such as Defra, The Department for Business Enterprise & Regulatory Reform and the CBI also attended.

At the dinner, Professor Paul Ekins reminded guests of the important role PAGs play, he said, "We are truly grateful for the energy, enthusiasm and commitment of these groups. I'd like to thank everyone for their continued support, especially Defra who provides the funding that enables NISP to continue assisting UK businesses to become more profitable and sustainable operators."

PAGs assist each of the regional teams in ensuring that the programme drives genuine business requirements and that the strategic direction is relevant for each region.



*Pictured are the PAG Chairmen with (front row) Peter Laybourn – NISP Director, Professor Paul Ekins – NISP Chairman and Ian Bryan – NISP Finance & Operations Director.*



# NEWS

*...in brief*

## Destination Europe

NISP represented the UK at the Ecotec exhibition in Essen, Germany where Minister for State (Climate Change and the Environment), Ian Pearson, MP, introduced other European Ministers to the UK's home grown success story.



## Value for money



A study by a team of independent economists has revealed that NISP is the most successful and best value for money initiative funded by Government in the UK and therefore presents a significant return on investment. The study demonstrates that NISP can help industry reduce costs by £1 (i.e. adding £1 to the bottom line) for every 2.5 pence invested and carbon emission reductions have been achieved at cost of only £2.30 per tonne.

## All fired up for the future

### Company: UK Coal Mining Ltd

#### Key Facts

- Britain's biggest producer of coal
- Turnover in excess of £341 million
- Owns 50,000 acres of land assets
- Four deep mines across the UK
- Employs 4,000 people.

UK Coal has been an active member of NISP since October 2005. The company's significant progress to date illustrates one of the programme's main objectives – to effect cultural change within companies, encouraging them to look beyond traditional markets to create commercial opportunities.

NISP's relationship with UK Coal developed as a result of the needs of another NISP member, Corus, to find alternative sources of carbon. Corus was importing large amounts of coal for its manufacturing process and paying a premium to do so. An opportunity was identified whereby Corus took coal fines from UK Coal, reducing costs for both companies by utilising a product that was previously classed as waste.

Since then NISP has been instrumental in introducing UK Coal to other key partners, maximising further business opportunities:

- Newcastle University:** carried out slurry-drying trials using electrokinesis to produce by-products that were both combustible and transportable.
- C-Tech Innovation:** currently researching additional technologies for drying slurries, including microwaving.
- Global Clean Energy:** evaluating the feasibility of converting 3.5m tonnes of coal slurry into ethanol to sell on as either chemical feedstock or fuel.

*"Through a continued relationship with NISP, companies like UK Coal have access to a growing stream of information and can follow new leads as they arise. Establishing a long term business relationship is the optimum way for NISP members to deliver significant business opportunities."*

Malcolm Bailey, Director of the NISP Yorkshire & Humber Programme

*"Thanks to our involvement with NISP, we now consider our waste as someone else's raw material."*

Keith Palmer, Quality Control Manager at UK Coal

The partnership with UK Coal has resulted in the diversion of 11,500 tonnes of coal fines and an additional income stream. Moreover, this is only the beginning, with the on-going relationship and potential synergies set to further boost sales and reduce waste for the business.

## NISP on TV

NISP achieved a small screen double in June – appearing on ITN news at the CIWM conference as well as ITV Anglia's Climate Change Challenge reporting on NISP East of England's work with members Streamfoods, the Institute of Manufacturing and Eco-Aggregates. Visit [www.nisp.org.uk](http://www.nisp.org.uk) to view the films.



## A brand new look

NISP Scotland and NISP Wales are the final regions to adopt the programme's branding. This change



means that every region now has the same look and feel and NISP can be recognised by all companies as a UK-wide brand.

# food & drink sector



## The right ingredients... ...for business results

It is estimated that, for every £1m spent on ingredients, manufacturers incur costs of over £50,000 for disposal of solid and liquid wastes. But with the true cost of waste at least five times that of disposal, NISP is helping forward-thinking businesses turn this into profit.

The food chain represents the production and delivery of our food from farm to fork. In the UK this is big business which incurs significant levels of waste:

- ▶ It employs about 12.5% of our workers
- ▶ It represents 8% of our economy
- ▶ Farmers manage 70% of the land

NISP is helping businesses to exploit the potential value in organic 'waste' through technologies such as anaerobic digestion systems for dairy waste, sourcing biodegradable and compostable packaging and onsite facilities for farm waste.

### Case Study

#### Fact file

Organisation:

**EWOS Group**

Business:

**Produce 670,000 tonnes of salmon and trout feed per annum**

Location:

**Norway, Chile, Canada, UK**

No. of employees:

**700 worldwide**



### A Fishy Business

#### Challenge

There is an increasing need for the fish feed industry to become more sustainable. Companies have been increasingly proactive in addressing issues such as sustainable practice; research and development to reduce the dependency of particular feeds and understanding and minimising the environmental impact of fish feed.

NISP Scotland member, the EWOS Group, a leading international player in the production of fish feed for the fish farming industry, has produced an Eco footprint initiative, addressed procurement and logistical activities and are seriously looking at how they can reduce CO<sub>2</sub> emissions through working with NISP.

#### Solution

EWOS became a NISP member in 2006. From the outset, the programme helped the company to build relationships with a wide network of organisations. In relation to CO<sub>2</sub> reduction, NISP identified locally produced resources to help EWOS reduce their emissions by diverting waste from landfill and reducing air miles. The company has also been successful in identifying alternative materials for feed production.

#### Results

EWOS has already begun to reap benefits from its involvement with NISP. A synergy with another Scottish food company has saved the group £40,000 a year and increased the sales of the other company involved by £20,000. NISP will continue to work with EWOS to source locally produced alternatives to virgin fishmeal thus cutting air miles and reducing their impact on fish stocks.

### Members in action



**Arla Foods**, the UK's leading dairy company, asked NISP to assist in finding solutions to manage the disposal of its milk waste and by-products. The move followed the introduction of new EU regulations that made it no longer viable to manage the waste through traditional outlets. NISP proposed the innovative concept of generating energy from waste using Anaerobic Digestion (AD) and combined heat and power as an approach.

This has resulted in cost savings on waste transport, additional sales for the AD plant suppliers and reduced CO<sub>2</sub> emissions.

**Produce World**, a group of companies specialising in processing fruit and vegetables, washes thousands of fruit and vegetables every day, resulting in tonnes of excess soil. With the assistance of NISP, the company has managed to sell its soil waste product to another business, resulting in cost savings of around £57,000.



From out of date bacon sandwiches to electricity for 39,000 homes, a new Encycle power plant in Stallingborough could lead the way in green energy. NISP has assisted **Immingham Rail Freight**, host for the new site, with expertise to get this innovative – powered by food waste plant – through the planning application phase.



*"With such a collection of food companies in the region, this workshop helped generate 116 potential synergies and enabled likeminded companies to establish new business relationships."*

## Resourceful workshops

NISP East Midlands has teamed up with the Food and Drink Forum (funded by East Midlands Development Agency) to hold a workshop to support the region's food and drink industry. The workshop attracted over 20 businesses ranging from food processors such as Premier Foods,

Arla Foods and Pork Farms to agricultural companies such as Fresh Gro. The British Frozen Food Federation also attended showcasing resources from a number of its members in the East Midlands. Peter Shonfield, Practitioner for NISP East Midlands said:

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## On the spot...

NISP is home to many talented individuals who are working with businesses with a diverse range of challenges. The programme has over 60 practitioners, each with specialist skills and expertise. In this issue we put two of our practitioners – Rhian Kirton from NISP Wales and Joe Reynolds from NISP Yorkshire and Humber 'on the spot' to find out more about their background, expertise and why NISP interests them.



RHIAN KIRTON

**Name:**  
**Rhian Kirton**

**Region:**  
**Wales**

**Expertise:**  
**Lifecycle analysis, process flow techniques and IPPC applications**



JOE REYNOLDS

**Name:**  
**Joe Reynolds**

**Region:**  
**Yorkshire & Humber**

**Expertise:**  
**Manufacturing, business recovery and project management**

## Background...

My career has spanned both the automotive and electronics sector, working most recently as Health, Safety and Environmental Engineer for Trico – a manufacturer of wiper blade components. Before then I carried out risk assessments and prepared for the WEEE Directive at Fulleon Ltd – the market-leading designer and manufacturer of alarm signaling devices. At university, I achieved a BSc (Hon) degree in Marine Geography and an MSc in Environmental Risk Management.

I have worked in the manufacturing industry for 20 years, gaining experience in design, production and management, with hands on experience in all stages of manufacturing – from the design of a prototype through to full production and installation. In recent years, I've concentrated on environmental projects, using my industrial experience to assist companies with their environmental challenges including cleaner technologies, waste minimisation and sustainable technologies for energy production.

In my role with NISP Yorkshire and Humber I have key responsibility for aggregates, high volumes of diversion and new start-up companies.

## What interests you about NISP?...

NISP is a fascinating and truly unique programme. I am thrilled to be working for an organisation that assists businesses in achieving results from challenges they face. I am particularly interested in helping members to secure a sustainable supply of new and innovative materials for future use in industry.

Since I joined NISP, I have seen a significant rise in the awareness of industrial symbiosis in Wales and a marked increase in bottom line savings for businesses carbon reductions and landfill diversion. The future certainly looks very promising and it's great to be involved.

Having been involved with environmental issues for the last 12 years, my personal mission is to help create a healthy environment, which has sustainable employment for future generations. Every day I get to take small steps towards this goal by assisting businesses involved in the NISP programme.

Helping to turn a company's waste stream into another's raw material takes a very high degree of ability, knowledge, vision and application. I enjoy working with a great team that has the practical experience and academic expertise to help businesses face these opportunities and deliver significant results day-in-day-out.

## Pilot to fuel innovative future

The last issue of Synergie revealed that many of the business development opportunities created through the NISP programme are at the forefront of innovation and new technology.

To build on this significant achievement, NISP together with i10 is undertaking a pilot exercise across the East of England with environmental specialists and the region's universities to assist businesses in generating further and new innovative solutions to their resource efficiency issues.

A survey – being distributed to thousands of businesses across the region – will identify resource efficiency issues and match them with solutions using a vast resource pool of specialist knowledge including academic expertise from the region's universities, including Cranfield and Cambridge.

Businesses that respond will be invited to a series of innovation based resource efficiency workshops, the first of which is planned for October, to discuss their needs with experts from a wide range of disciplines.

Abrar Jawaid, Technology Manager for NISP East of England said: *"This will be the first time academics, environmental specialists and industry has worked together under the banner of industrial symbiosis to assist businesses in delivering innovative resource efficiency solutions. This concept really has the potential to fuel the innovative and technological business solutions of the future. It is hoped the survey will roll out across all regions following a successful pilot."*

If you would like to find out more contact Abrar Jawaid at [abrar.jawaid@nisp.org.uk](mailto:abrar.jawaid@nisp.org.uk). To take part in the survey visit [www.i10.org.uk/nisp\\_survey](http://www.i10.org.uk/nisp_survey).



ABRAR JAWAID