

# The Axion Newsletter

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**WELCOME** to the latest edition of the Axion Newsletter. This issue includes items on Axion's bid for a major new project funded by the Carbon Trust, details of Axion's new Laboratory Testing Service and Axion's appearance in a new educational film aimed at encouraging year 11 and A level students to consider science based careers.

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## AXION CONSORTIUM BIDS FOR LIQUID TRANSPORT FUELS PROJECT

Axion is putting together a bid for a major new research and development project to research liquid transport fuels produced by Biomass Pyrolysis. The aim is to develop a commercially viable route to produce biomass oils that can be blended with diesel for sale on retail forecourts and to go into full production within 8 years.

Axion is leading a high-profile international consortium which has been short-listed for this multi-million pound tender with the Carbon Trust. Axion will be working with Biffa PLC, Greenergy International, Aston University's Chemical Engineering Department, CARE in Northern Ireland and Biomass Engineering in Warrington, Dynamotive in Canada, the Carbolea Research Group at the University of Limerick, Lund University in Sweden, SEKAB in Sweden, Oxford Catalysts, Birmingham University's Chemical Engineering

Department, Robinson Brothers in West Bromwich and DeSmet Ballestra in Italy.

The consortium will test and evaluate a range of feedstock options including:

- Biomass grown specifically for pyrolysis
- Biomass which is a by-product for another application such as food
- Biomass from waste including municipal solid waste and wood from construction and demolition

Competing uses for biomass will also be evaluated such as thermal or anaerobic digestion power generation.

Axion Director, Roger Morton says "We are very excited about leading such a high-calibre group of consortium partners to bid for this leading-edge project with the Carbon Trust. "

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## AXION LAUNCHES NEW LABORATORY TESTING SERVICE

Axion has launched a new laboratory testing service which provides comprehensive, low cost, polymer sample testing and analysis using its wide range of advanced testing equipment.

Recent changes in legislation such as REACH and the Waste Framework Directive have led to stringent demands from customers to identify polymer types, to understand the additive content of plastics and to test new sources of raw material supply. Plastics recyclers in particular have an increased need to be knowledgeable about polymer types and additive content and this can only be determined by thorough and detailed laboratory analysis. It is no longer acceptable to place goods on the market with a rough verbal indication of the polymer type or to claim ignorance about the levels of any undesirable additives. The sale of recycled plastics is changing from an environment of 'buyer beware' to one where the customer has the right to demand detailed specification and material data sheets concerning the product being supplied and the supplier has a legal obligation under REACH to supply this data and also specify the possible safe applications for the material.

Axion's state-of-the-art laboratory services will identify polymer type, establish the presence of key elements within the material and measure the physical properties

of samples as small as 1 kilogram. Assistance can also be provided with the preparation of material data safety sheets for recycled polymers. Axion can propose statistically rigorous sampling methods from bulk material streams based on industry recognised standards.



Axion can pre-test potential new sources of polymer feedstocks before you invest time, effort and money in full scale production trials. Its pilot-scale facility can duplicate a full-scale process from raw material separation right through to injection moulding of finished polymer resin.

Axion can offer:

- Polymer type identification by FTIR
- Sieve analysis

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## AXION LAUNCH NEW LABORATORY TESTING SERVICE (Continued....)

- Additive analysis by x-ray
- Tensile testing
- Impact testing
- Melt-flow index
- Density analysis

- Sample compounding
- Ash content
- Manual sorting

Please contact Mike Bennett, Mark Keenan or Steve Bell at Axion Polymers on +44 161 737 6124 or email [lab@axionpolymers.com](mailto:lab@axionpolymers.com) to discuss your requirements and for price quotations.

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## AXION GIVES LESSONS IN RECYCLING

Axion Recycling is taking the plastic recycling message into schools by appearing in two training CDs aimed at inspiring more than 500,000 11 year olds and A-Level chemistry students in the UK to pursue science-based careers.

The interactive learning aid features Commercial Director Roger Morton explaining various recycling and polymerisation processes at the company's purpose-built facility at Salford. One of the most advanced processing plants in Europe, it produces high-grade polymers from mixed small WEEE, fridge and monitor plastic.

Produced by MTJ Media on behalf of Pearson Education, the CDs accompany A-Level and Key Stage 3 textbooks and are designed to encourage students' interest in the application of chemistry in the wider world.

From an employer's viewpoint, Roger hopes it will prompt more young people to consider a future career in the chemical and processing industries, particularly given the current shortage of skilled chemical and polymer engineers. He warns that addressing this shortfall is vital if the UK is to develop more sustainable and technological practices, such as plastics recycling.

"Finding good quality qualified staff is a struggle," he says. "Without trained people, research and development progress could be hampered across a number of key sectors, including materials recycling. So showing the real-life applications of science is one way of encouraging students to take an interest in where their qualifications can lead them. Hopefully this will help to address the need for more qualified chemical



engineers, who work in the development and production of essential items in our modern technological society, from new materials to new fuels, drugs and consumer products."

Axion Polymers, the company's polymer processing division, maintains close links with local universities by offering student work placements. Three join this summer to work on process optimisation and business planning projects.

"As potential future employees, they get a feel for working with us and they in turn get valuable experience within an interesting and stimulating work environment, while being guided by our experienced team."

Although the skills shortage is set to trough in 2011 due to a 1990s dip in applications according to IChemE figures, this year has seen higher numbers of students applying to study chemical engineering at UK universities.

"That's good news," concludes Roger. "But in the short term, it still leaves firms like ours in desperate need of the skills we require to keep up with the pace of change in our sector."

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*Axion - Innovation in recycling*

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