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Northumbria to lead chemical industries' green recovery research consortium

Northumbria University has been named as part of a multimillion-pound research consortium that will help transform the UK's manufacturing and construction sectors.

Professor Justin Perry and Dr Matthew Unthank will lead research on behalf of the bulk chemicals sector, which forms part of the Government's newly launched hub Transforming Foundation Industries Research and Innovation (TransFIRe) hub.

TransFIRe was developed in response to Ministers' call to transform the foundation industries, namely: chemicals, cement, ceramics, glass, metals, and paper. These industries produce 75% of all materials in the UK economy and are vital for the UK's manufacturing and construction industries. The Government wants to make these industries more internationally competitive, while driving forward Britain's climate change ambitions.

UK Research and Innovation (UKRI) has allocated £4.7 million for three years to work with universities, research organisations and industry to assist with technology development and transfer, new business developments and new opportunities in materials and technologies to help to achieve the UK's ambition of being net zero by 2050.

Both Professor Perry and Dr Unthank already have vast experience of working closely with the polymer, materials, and pharmaceutical formulation industries.

Specifically, Professor Perry - Professor of Chemistry and Director of Research and Knowledge Exchange for the Department of Applied Sciences at Northumbria - works to close the links between universities and industry and make the exchange of needs and ideas more rapid.

"The aim of this three-year project is for UK academics to work with the foundation industries, to make them more competitive, while increasing their sustainability," he said. "It's also about bringing these six foundation industries together around the table to share their knowhow in ways which only working together will reveal.

"There may be processes surplus to requirement, which would be considered a waste product in one industry but could be moved to another industry and make automatic gains for the business.

"We already have close working relationships with a number of chemical sector companies through industry funded collaborative PhD projects and Knowledge Transfer Partnerships (KTPs) and we will be collaborating with many more as part of this project. We will be looking to develop new processes where nothing goes to waste not even heat."

Together, foundation industries are worth £52 billion to the UK economy and

produce 28 million tonnes of materials per year, accounting for about 10% of the UK total CO₂ emissions.

TransFIRe is a consortium of 20 researchers from 12 institutions, led by Cranfield University. It includes 49 companies and 14 non-governmental organisations related to the sectors, with expertise across the foundation industries.

Dr. Matt Unthank (co-lead for Northumbria University) said: “This is great opportunity to set the foundation for change in our industrial manufacturing sectors and to find new, better and greener ways of working together.

“Northumbria University are ideally situated to represent the bulk chemical sector in this new national consortium, building upon our strong track-record of industrial collaboration in this field.”

TransFIRe forms part of a wider Government-led Green Industrial Revolution, which has recently awarded £166.5m to innovators, businesses, academics, and heavy industry right across the UK. This incentive will accelerate the delivery of the critical technologies needed to further drive Britain’s climate change ambitions, while creating over 60,000 jobs across the UK.

Energy Minister, Anne-Marie Trevelyan, said: “We are determined to tackle climate change and make it win-win for both our planet and our economy. This major cash boost – targeted at our most polluting industries - will encourage the rapid development of the technologies we need to reign in our emissions and transition to a green economy, one that reduces costs for business, boosts investment and create jobs.

“Just six months ago, the Prime Minister set out a clear ten-point plan for creating and supporting up to 250,000 British jobs as we level up and build back greener from the pandemic. Today we’re boosting our armoury for the fight against climate change and backing innovators and businesses to create green jobs right across the United Kingdom.”

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team at media.communications@northumbria.ac.uk with any media enquiries or interview requests ---

Contacts



Rik Kendall

Press Contact
PR and Media Manager
Business and Law / Arts, Design & Social Sciences
rik.kendall@northumbria.ac.uk
07923 382339



Andrea Slowey

Press Contact
PR and Media Manager
Engineering and Environment / Health and Life Sciences
andrea.slowey@northumbria.ac.uk
07708 509436



Rachael Barwick

Press Contact
PR and Media Manager
rachael.barwick@northumbria.ac.uk
07377422415



James Fox

Press Contact
Student Communications Manager
james2.fox@northumbria.ac.uk



Kelly Elliott

Press Contact
PR and Media Officer
kelly2.elliott@northumbria.ac.uk



Gemma Brown

Press Contact

PR and Media Officer

gemma6.brown@northumbria.ac.uk