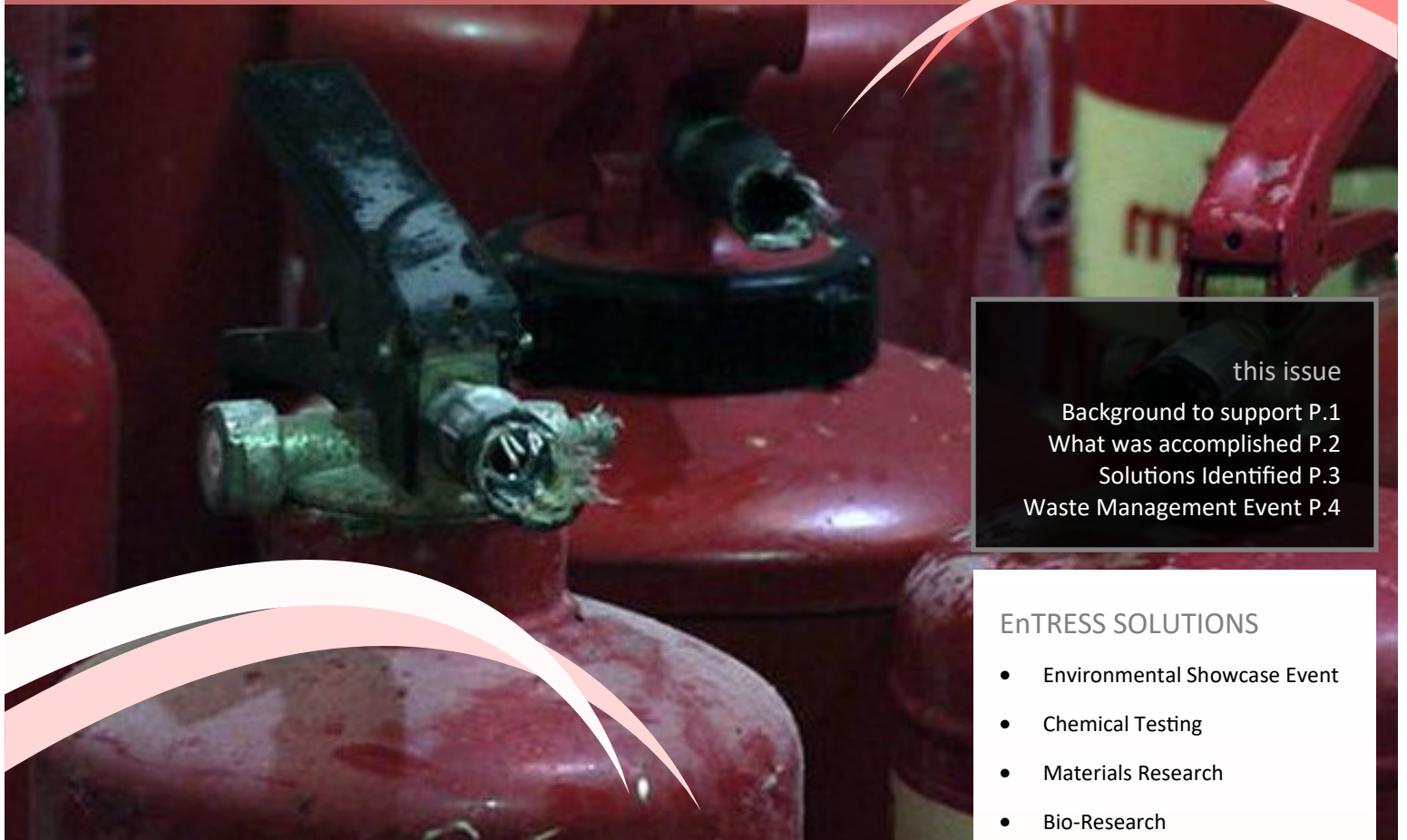


## Fire Protection Recycling

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### EnTRESS SOLUTIONS

- Environmental Showcase Event
- Chemical Testing
- Materials Research
- Bio-Research
- Networking
- Chemical Waste Treatment



### Fire Protection Recycling

Provide fire extinguisher and fire protection equipment disposal through a safe, guaranteed recycling process. Working with servicing companies, business, leisure & retail sectors, councils, public sector buildings, facilities management companies and fire fighting services in the UK & Europe

## Background to the support provided

Having been initially referred to the University's EnTRESS Project by the Black Country Growth Hub, our initial meeting was at Fire Protection's Oldbury site. The company were interested in exploring the possibilities of re-cycling/re-processing fire extinguisher dry powder. This is normally a mix of Monoammonium phosphate and Ammonium sulphate. Which by coincidence, are common constituents of agricultural fertilizers. EnTRESS agreed to carry out initial research on the feasibility of re-processing this mix of materials for alternate use. A secondary aim of the project was to work with Fire Protection Recycling to enable its participation in a EnTRESS workshop / challenge / showcase event, themed around waste management & waste treatment. Held at the Wolverhampton Science Park on the 1st of March 2018 and supported by the Environment Agency.





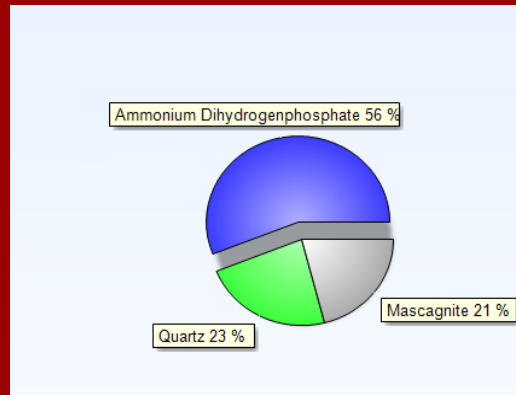


## Solutions Identified

- Our research suggested that the composition of the recovered extinguisher powder did indeed match that of typical commercial fertilizers.
- A second research stream for the recovered powder was its use as a neutralizing agent for other more problematic chemical waste. From analysis the powder is 56% Monoammonium phosphate and 21% Ammonium sulphate. The mix once in solution and after initial reaction will end up mildly acidic (ph 4.8) and could be used for the neutralization of alkaline waste. This is however a specialist application and will require further specific testing.
- In order to assess the effectiveness of this material as fertilizer Professor Mike Fullen and Dr

Tim Baldwin who is a plant biologist, are to developing an integrated soil-plant response study to assess plant yield. This further work will be carried out under a related University project (BRIC) Brownfield Research & Innovation Centre.

- With over 60 attendees networking with speakers and exhibitors from business, academia, national & local government. a number of new contacts & opportunities for the company were generated by attending our waste management event.



Founded in 2010, Fire Protection Recycling are the UK's largest recycler of Fire extinguishers, recycling in excess of 500,000 per year.

Based in Oldbury and providing a National collection & disposal service to all sectors regardless of quantity or location. They are an ISO 14001 accredited company giving peace of mind when it comes to environmental responsibilities. As the majority of their customers are from the fire protection industry they also offer a disposal service for other equipment such as smoke detectors, alarms, light fittings, batteries, hose reels & fluorescent tubes, reducing the supply chain length as well as cutting costs.

"We are always looking at new disposal routes to assist with our environmental goals. We also monitor transport to ensure we are doing all that is viable to reduce our Carbon footprint." Contact:

[info@fireprotectionrecycling.co.uk](mailto:info@fireprotectionrecycling.co.uk)

## Technology Solutions Increase Competitiveness



The EnTRESS project collaborates with the University's leading academics like Professor Mike Fullen (Far left) —Professor of Soil Technology, in tackling the environmental problems and promoting innovative technological solutions. Our other lead academic on this project Professor

Craig Williams—Professor in Inorganic Chemistry Research. Wolverhampton University is ideally equipped to undertake complex material characterization with three X-ray powder diffractometers (XRD), an X-ray fluorescence (XRF) spectrometer and two scanning electron microscopes Professor Williams has recently taken possession of an Intelligent Gravimetric Analyzer (IGA HIDEN) for accurate measurement of pore sorption and Temperature-Programmed Desorption (TPD) studies.





**What is EnTRESS ?**

ENTRESS is a new environmental innovation project drawing on University of Wolverhampton expertise, part funded by the European Regional Development Fund (ERDF).

**What we do?**

Support for Black Country SME's who want to modify their practices for increased sustainability.

**Eligibility Criteria:**

Open to all Black Country (Sandwell, Dudley, Walsall & Wolverhampton) Small to Medium Size Enterprises (SMEs).



**EnTRESS – Environmental Showcase – Right Waste Right Place**

This EnTRESS technology showcase held at the Wolverhampton Science Park on March 1st. With support from the Environment Agency, the event explored best practice and innovation within the waste management industry, as well as the impact of waste crime and duty of care. Bringing together the private, public and academic sectors this event provided guidance to both businesses and waste management professionals, helping the Black Country to become a low carbon economy. Keynote speakers include Environment Agency, Rolls Royce Plc and the City of Wolverhampton Council

**EnTRESS Case Study**  
**ISSUE 03 March 2018**

**EnTRESS**  
**Environmental Technologies & Resource Efficiency**  
**Support Service**

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