

## Geopolymers and substitute cements – turning waste into £

- Low carbon footprint construction materials can be made from a wide range of industrial wastes.
- Geopolymers can stabilise and treat hazardous wastes to produce sustainable construction materials with many advantages over traditional Portland cement.
- WRc's in-house experts can help with the development of geopolymers from lab scale feasibility studies to developing routes to market.

### Example waste feedstocks

- Incinerator bottom ash
- Air pollution control residue
- Fly ash
- Metallurgical slags
- Water treatment sludge
- Clays and mine tailings

## What WRc can do

### DESIGN THE MIX



### Mix design for

- hazardous waste treatment
- strength properties
- environmental properties
- setting requirements

### DO THE TESTING



### Test for

- mechanical property assessment
- environmental property assessment
- workability

### GET YOU TO MARKET



### Get you to market with

- market research
- application targeting
- end-of-waste

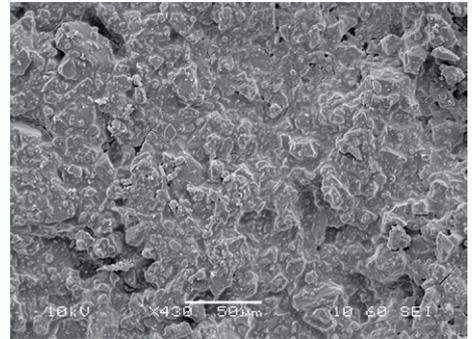


## What are geopolymers?

- Geopolymers are a sustainable alternative to traditional Portland cement. With the addition of a small quantity of reactants, waste materials can be used to produce a material with several advantages over traditional cements:
  - greater strength
  - acid and fire resistance
  - fast setting and strength development

## What can WRc do?

- WRc can help you to develop your product and guide you to market. Our in-house cement experts can help you understand the correct mix design for strength or environmental properties, carry out the required testing and help you open the doors to the market place. WRc can also help with market research and achieving end-of-waste status for your material.



**Contact our Geopolymers specialist,  
Dr Peter Keeley-Lopez, to explore  
opportunities for your waste.**

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