



## ENERGY AND PROCESS DECARBONISATION

**The Energy and Process Decarbonisation Group develops scalable technologies to drive innovation in sustainable energy and process technologies. The Group provides consultation, research, development and testing services to support industries to decarbonise through the uptake of more sustainable energy and process opportunities.**

### Capabilities

The Group develops technology to reduce carbon emissions and improve energy efficiency in industrial processes. Consultation and support are focused on energy decarbonisation including feasibility studies and technical advice to enable transition to low-carbon energy sources. Research and development activities focus on process modelling, energy storage and transportation, and materials testing. Testing and validation services ensure the effectiveness and safety of decarbonisation technologies, and include testing products in various combustion atmospheres, conducting emissions diagnostics, and validating process models. Scale-up and commercialisation support ensures viability in real-world applications.

### Benefits

- > Leads to significant cost savings by reducing energy consumption
- > Improves energy and process efficiency and productivity
- > Helps compliance with future regulatory changes
- > Supports long-term business sustainability and demonstrates environmental responsibility
- > Delivers reputational enhancement and supports efforts to address climate change
- > Supports the development of a technology's TRL Level

### Services

- > Evaluation of hybrid heating technologies
- > Modelling of process heating technologies
- > Emission, energy diagnostics, and process control
- > Diagnostics and efficiency optimisation of combustion processes
- > Process modelling and scale-up
- > Alternative fuels consultation
- > Life cycle assessment
- > Hydrogen storage, transport and generation
- > Testing for process safety and providing risk assessments
- > Scale-up and testing facilities for safe installation of hydrogen and other fuels
- > Development of decarbonisation roadmaps

### Facilities

Fully equipped materials development and materials characterisation centres along with a range of furnaces to support testing and modelling.



**Materials  
Processing  
Institute**

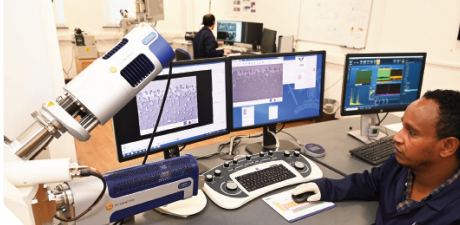
# Research and Technology

Scan the relevant QR code to find out more about key areas in which we provide research and technology support.

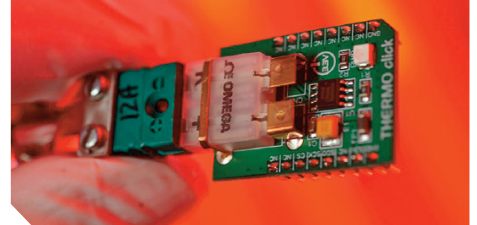
## CHARACTERISATION AND ANALYSIS



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## CRITICAL RAW MATERIALS



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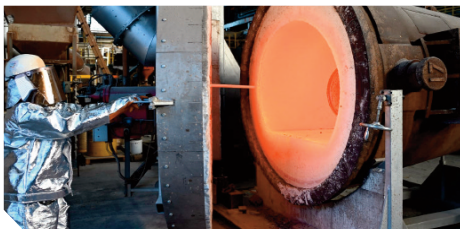
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## GREEN METALS



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### Address:

Materials Processing Institute  
Eston Road  
Middlesbrough  
TS6 6US  
United Kingdom

### Contact Details:

t: +44 (0)1642 382000  
enquiries@mpiuk.com  
www.mpiuk.com