

PRESS RELEASE

## Michelmersh to Produce the World's First 100% Hydrogen Fired Clay Bricks

Michelmersh has announced its successful bid to the Department for Business, Energy & Industrial Strategy (BEIS) UK Government, Industrial Fuel Switching competition to conduct a feasibility study to replace natural gas with hydrogen in the brick making process. The programme is part of the £1 billion Net Zero Innovation Portfolio (NZIP) which aims to provide funding for low-carbon technologies to decreasing the costs of decarbonisation.

The project represents a global flagship physical study to replace natural gas with hydrogen in brick manufacturing. Phase 1 of the project will demonstrate the viability of fuel switching and will see hydrogen used in the clay brick production process at Michelmersh's Freshfield Lane site. The project aims to inspire radical change across the sector and present opportunities and evidence-based research to support manufacturers on their journey to heavily decarbonise the production processes.

As the organisation leading the BEIS 'Deep Decarbonisation of Brick Manufacturing' project, Michelmersh has gone a step further to promote and disseminate the progression and learning of the project through a dedicated brand; HyBrick™. Working alongside a panel of expert partners, and after an introduction by Hydrogen Sussex, the consortium includes Limpsfield Combustion, Net Zero Associates, the University of Brighton, Greater South East Net Zero Hub, FT Pipelines, Geopura, and Safety Monitors.

Green electrolytic hydrogen will be used for this innovative study, helping to demonstrate how this technology can transform the brick manufacturing industry. All the consortium partners are thrilled to facilitate and promote the production of the world's first 100% hydrogen-fired clay bricks, enabling a movement towards hydrogen and providing a pathway to the net-zero future that our country is aspiring towards.

This first HyBrick™ study will explore testing of specific infrastructure components to prove hydrogen firing capability and determine any impact on overall quality, brick integrity or aesthetics. Data will be collected and analysed to ascertain any effect to process temperatures or stability. The bricks will then be compared against control bricks (produced using 100% natural gas) to ensure they meet all technical, aesthetic and characteristic requirements, with independent laboratory testing to determine their durability and structural performance. Of paramount importance and conducted throughout the project are dedicated health and safety risk analyses, assessments and training, alongside air quality performance testing.

Associated work looking at hydrogen production solutions aims to provide opportunities for Michelmersh with resilient, clean on-site hydrogen, which could help the Michelmersh Group pave the way to a more sustainable future for the broader ceramics industry.

Sarah Le Gresley, Michelmersh's Innovation Director, Sustainability Group Chair and Application Lead is excited to begin the world's first trials. Sarah is incredibly passionate about demonstrating that, as well as clay brick having zero operational carbon, this also presents the opportunity to significantly reduce clay brick's embodied carbon by over 60%. Sarah recently coined the expression 'Shaping Genuine Sustainability' for the Group to highlight its focus on investing in genuine carbon reduction projects over funding carbon offsets.

Sarah is working together with Michael Brophy, Group Production Director, who is also eager to demonstrate the Group's progressive approach to sustainability. Michael is enthusiastic to push the boundaries and explore the engineering, production capabilities and requirements that will take sustainable UK manufacturing to the next level. With Michelmersh focused on leading the sector by testing and exploring efficient new technologies and production methods, including but not limited to fuel switching, it will endeavour to showcase how natural, locally made construction products can provide significant reductions to the whole life carbon of durable materials available to specifiers.

Feasibility studies began in spring, and we will see the production of the world's most sustainable clay bricks, and the

first to be produced with 100% hydrogen. To celebrate Michelmersh's achievement and to encourage its customers to stand in unity with it on this journey to positive change, the Group will be presenting a select quantity of the HyBrick™ products to its most engaged customers and stakeholders.

**Frank Hanna, Joint CEO of Michelmersh, explains:** "The Group is proud to stand at the forefront of such evolution for our industry. While we have seen energy costs rise due to environmental and political factors, this incredible application of technology and innovation allows the Group to reduce its costs considerably, improve its resilience and welcome new products that take sustainability to a whole new level. While we look forward to the challenges ahead of us, we are optimistic about the change we can inspire within the manufacturing sector. With decades of experience producing high-quality products and with the aid of our industry-leading partners, the Group is well suited to lead the UK with this flagship global first.

"The Group has set ambitious 2030 Sustainability KPIs which include 100% of our electricity provided by green suppliers and renewable sources from October 2022, with other onsite renewable energy sources already on the ground at Michelmersh sites. The team understands the impact this project could have if successful, however, it also recognises there is a long journey ahead before hydrogen is fully tested throughout the multiple different production processes or is financially viable to expand to all our sites. Our Sustainability Group sees this project as just one string to its bow, while also undertaking a variety of research and feasibility projects to determine the most carbon-efficient and commercially sensible solutions to complete its ambitious sustainability roadmap."

Register your interest in receiving a sample product from the innovative HyBrick™ study here:

[HyBrick](#)

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