Research Organisation Name:
Glass Futures

About:
Glass Futures is the Global Centre of Excellence for the glass industry, working closely with other Foundation Industry sectors to develop solutions to common challenges. Glass Futures brings together a global supply chain to enable a revolutionary change in glass manufacture, aiming to help industry reduce the cost, the risk, and the deployment time for innovations in the glass value chain.

Glass Futures is developing a 30T/day glass pilot facility in St Helens, which offers the potential to trial new technologies at an industrially relevant scale, with access to industrial suppliers of low carbon fuels (e.g., hydrogen, biofuels). The intention is that this facility will also provide a platform for other Foundation Industries to trial technologies. Coupled with this, this site will also provide training programmes into industrial technologies.

Location(s):
St. Helens, Sheffield

Technical Capability:
Glass Futures offers the following capabilities:

- Access to large-scale combustion equipment. This includes a highly instrumented 350kW combustion rig, capable of running on a range of fuels (hydrogen, biofuels, natural gas, blends of each), with the capability to pre-heat the incoming air up to 1200°C. We have plans to develop this equipment to be able to simulate glass, ceramics and steel furnaces/kilns.
- The 30T/day Pilot Facility, capable of trialling new technologies at semi-industrial scale
- Expertise in glass manufacturing, processing and industry knowledge
- Network of partners across the Foundation Industries
- Identifying funding opportunities, bid writing and project management skills

Research Areas Relevant to the Foundation Industries:
Key research of areas of interest:

- Furnace technologies, including enablers for low carbon fuels such as hydrogen
- Digital technologies and sensors
- Recycling and reuse, with a particular interest in utilising wastes from one sector as raw materials in another

How to Engage with Glass Futures

- Please come and talk to us about any project ideas or concepts you might have. Even if not seem directly relevant to the glass sector, we are keen to

explore how technologies might be translated into glass manufacturing processes.

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Case Study:

Glass and Steel manufacturing furnaces frequently operate at temperatures above 1400'C, creating a pressing need for new, cost-effective technologies to reduce NOx emissions and increase furnace efficiency to meet ever tightening regulatory requirements. In this regard, Glass Futures (GF) supported Global Combustion Systems (GCS), a SME who manufactures and supplies burners for glass manufacturers, in (a) identifying funding opportunity to develop their novel low-NOx combustion system (Auxiliary Injection) for low-carbon fuels and cross-sectoral application, (b) pulling together a consortium from Steel sector through GF's network, and (c) preparing a bid for funding from Innovate UK. Additionally, GF is providing GCS access to their large-scale combustion test bed and acting as Project Manager in this project.

More details about the project (EcoLowNOx) can be found at the link below:
https://gtr.ukri.org/projects?ref=93117