

Session	Energy Efficiency in Glass Production
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Chair	Tolga Uysal



Glass Futures: A Research and Collaboration Platform for Glass Industry Decarbonisation

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Biography

Dr. Daniel Backhouse is Senior Glass Technologist and his role involves supporting the technical delivery of projects and supporting the development of Glass Futures' technical readiness to run pilot-scale trials. He previously chaired Glass Futures' Technical Strategy Working Group.

Daniel received his PhD in Glass Science from the University of Sheffield in 2017, following which he was a KTP (Knowledge Transfer Partnership) Associate working with Superglass Insulation Ltd. Starting in 2018, he worked as a Postdoctoral Research Fellow at Sheffield Hallam University, focusing primarily on the development of low-carbon, alternative raw materials for use in the Glass and Ceramics industries, before joining Glass Futures in June 2021.

He has a wide range of experience in glass composition development and analysis, as well as industrial symbiosis.

Abstract

The glass industry needs a step-change in technology if it is to achieve net-zero. This involves high risk R&D at a large/industrially-relevant scale. Glass Futures is a not-for-profit research organisation, built by its members from across the global glass industry to do exactly this, at a Centre of Excellence being built in St Helens, UK. The remit of the organisation is to enable its members from across the glass supply chain and beyond to collaborate in areas which affect all parties, with a particular focus on decarbonisation of the glass-making process and its upstream and downstream activities.

At the heart of the new Glass Futures' facility is a 30 tonnes/day pilot-scale glass furnace, due to be commissioned in spring 2025. The facility has been designed to enable the industry to develop and trial new technologies at an industrially relevant scale, without risk to their commercial manufacturing assets, thus providing increased confidence for manufacturers looking to invest in low-carbon technologies such as alternative fuels, CCUS technologies and new raw materials.

In this presentation, the authors will provide an overview of the new Glass Futures facility. The initial programme of pilot-scale trials focusing around low-carbon energy sources (biofuels, electric boost, hydrogen) will be highlighted. In addition, some of the key research work conducted by Glass Futures and partners in this area will be discussed.

