

The glass industry waking up to its needs

In his role as Principal Coordinator on the Advisory Board of Glass Futures, Dave Dalton addressed an international audience at the House of Lords in London this February about plans for twin Centres of Excellence for glass in the north of England, aimed at putting the UK at the forefront of global glass manufacture. *Glass Worldwide* (preferred international AIGMF journal) was there.



Dave Dalton addressed an international audience that included current BEIS ministers, senior civil servants and representatives of the Northern Powerhouse, Innovate UK, Liverpool City Region, St Helens Metropolitan Borough Council, several universities and leading suppliers.

The glass industry has historically been condemned as a polluter and despite being one of the smallest of eight such energy-intensive industries and with our ability to influence government on punitive measures correspondingly limited, we needed a way to increase our impact. Alongside other industries that have worked towards solutions to decarbonise, we produced a sector roadmap and as part of that process, Glass Futures was developed and is now close to becoming a reality, with two physical centres that will lead the way for the glass industry to demonstrate what can be achieved.

Although we are castigated as an industry that pollutes, who would imagine the entire amount of CO₂ produced in glass manufacture across Britain and the EU is more than ten times mitigated by the products produced in the flat glass industry alone? We produce in the UK over a million tonnes of CO₂ but products we make such as efficient glazing systems and solar cells save ten times that amount of CO₂ in their lifetime. If you add to that the fibre that goes into

windfarms and factor in the container glass sector where we produce safe material to store beverages and food that lasts many times longer than competitive packaging materials, the CO₂ and methane that is saved is immense. Who would not want to support an industry that is actually making savings to the planet?

Two-part concept

Glass Futures is a two-part concept. We will have two centres, one with industrial-scale melting technology backed up by virtual reality and the other that will be more fundamental research-based around university concepts. And within that, we have the idea of a university hub to bring together collective capabilities in a separate but very synergistic project to ultimately share the same platform.

At many levels, glass manufacturers contribute immensely to society. But although their products are evolving all the time, how can they reach their potential without the right infrastructure and mindset? People need to be trained and developed to research

and push the boundaries. Glass Futures wants to work with everyone who will take the time to join with us on this journey to shape policy and integrate the idea of training and developing people throughout their entire careers, keeping them fit for purpose and capable of passing their knowledge to the next generation. This goes right through to training people in R&D so that we can deliver world class results.

Glass Futures has the support of a number of major universities and it is not just about the industrial aspect but academia too. As well as academia raising its concerns and what it needs in terms of solving problems backed by industry, industry should also be asking questions of academia as to how their brainpower can be utilised to create solutions too.

The team from Leeds University is a staunch advocate of Glass Futures and creating a centre around R&D that will lead us to not only evolving current materials but also novel materials for the future. We are already researching into fields such as photonics, medical devices, implants and all manner of things that will revolutionise society in the future. How can we get that to be part of an integrated glass industry that attracts global investment and interest? By creating a common platform of R&D, training and upscaling, such that we invite collaboration across the sectors as well as from academia, industry, business and government to make sure that this investment works to maximum advantage and provides the best opportunity to develop the next generation to lead the world in glass technology. ▶



Dave Dalton alongside Lord Prior of Brampton, host of the House of Lords event (left), Richard Katz, a director of Glass Futures and Sir Alan Langlands who represented the University of Leeds.

Research experimentation

One of the difficulties in glass manufacture research is the scale. With large furnaces producing hundreds of tonnes of glass every day of the year with very tight margins, there is no opportunity to conduct research on a full-scale furnace without impacting negatively on productivity.

Research at university and bench level does not demonstrate sufficiently what will happen if you make glass in volume. Glass Futures will provide an opportunity at significant scale that will attract the industry to work with us to experiment.

And around that, we will build a world of virtual reality. Our partner

Siemens is leading us on this journey of introducing technology, digitalisation and concepts like Industry 4.0. We aspire to be the first industry that completely digitalises its process, employing data in real-time to rectify a problem before it occurs... that is the future. With virtual reality, we can start to model things in a real sense to impact on what we carry out with experimentation on the furnace that we build.

Glass Futures is a Not for Profit Company, attracting interest globally in what we are aspiring to achieve. We are offering the hand of friendship across society to help get the glass industry in the UK to be at the vanguard of industry practice to reduce our energy consumption and carbon impact, demonstrating to other industries that this is an achievable target for industry in general. Let us embrace the challenges and collaborate to solve them. We all want a better future for the next generation and Glass Futures will provide a platform for a forward thinking and progressive industry to work together. This goes beyond normal economic boundaries... this is about the idea of an industry waking up to its needs. ●



Dave Dalton discussing Glass Futures, which will be the world's first openly accessible, commercially available and multi-disciplinary glass melting facility, with Chris Leonard, Director of Development at Ametek Land and Neil Simpson of Simpson Combustion and Energy Ltd.

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