We Are Energy

Conventional and renewable energy systems

The UK Pavilion's focus on pure energy is informed by hard science

As the overall theme of Expo 2017 being hosted by Astana is *'Future Energy'*, it is fitting that visitors entering the UK Pavilion are guided straight to the very heart of the matter. What greets them is a vision of raw, primordial energy as released at the birth of this universe in the Big Bang and which, thanks to the energetic outpourings of our Sun, has created the very building blocks of life and continues to sustain everything on earth.

'We are Energy', it proclaims - a message at once universal and inclusive. And from this starting point, the visitor goes through an immersive experience composed of darkness and light, contrasting architectural textures, interactive sound and computer-generated landscapes, following a timeline over billions of years through to the emergence of human civilisation and its ever more sophisticated ability to harness the various sources of energy that surround us.

The UK Pavilion's focus on pure energy is informed by hard science – appropriately enough given that it represents a country whose scientists and technologists have won more Nobel prizes than any other apart from the United States. But the way in which such abstract themes are brought to life is testament to the creativity and technical capabilities of UK architects and engineers, musicians and computer programmers – to name but a few. In this and many other ways 'We are Energy' is a celebration of human energy and especially of British creativity and know-how.

Here, the visitor is reminded of how UK breakthroughs in harnessing different forms of energy –from the steam to the jet engine – have transformed the ways by which people of the world can come together. One example of this ingenuity comes from the Shell Eco-marathon, a unique competition that challenges students around the world to design, build and drive the most energy-efficient car. The competition dates back to 1939 when Shell Oil Company employees in the USA made a friendly wager over who could travel furthest on the same amount of fuel. Since then the competition has expanded to two more continents, includes many energy types and sparks passionate debate around the future of energy and mobility.

Looking to the future, new technologies and advanced materials such as graphene, first discovered in Manchester and unrivalled for its strength and conductivity, have the potential to transform the ways in which energy is produced, stored and consumed. At the National Institute of Graphene based at the University of Manchester, UK-based scientists are exploring the almost limitless potential of this exciting new material.

The UK's leading role in developing both conventional and renewable energy systems, Smart City technologies and other energy saving solutions, will likewise play an important part in mitigating climate change. Its leadership in innovation and design, its importance as a global hub of academic excellence, its outward-looking culture and commitment to free trading principles – all of this and more are showcased in the UK Pavilion at Expo 2017.

Together with our hosts, the Republic of Kazakhstan, the United Kingdom - its companies and universities and research institutes - has forged ever closer links since the two countries first established bilateral relations twenty five years ago. As the visitor will discover, those bonds of mutual respect are physically represented in the very fabric of the UK Pavilion in Astana. F

Right: 'The Faithful' by Andrew Hall
Below: Internal view of the UK Pavilion