

World Hydrogen Summit 2023

UK Catalogue




GREAT
BRITAIN & NORTHERN IRELAND

The UK's Hydrogen Expertise

The UK has a long-standing history of innovation and technological advancements, and the Hydrogen sector is no exception.

With a legal commitment to achieving net-zero emissions by 2050, the UK has become a global leader in developing and implementing hydrogen technologies. Low carbon hydrogen is our new super-fuel, a source of clean energy, and the UK excels in its production and development, using world-renowned skills, expertise, and natural resources.

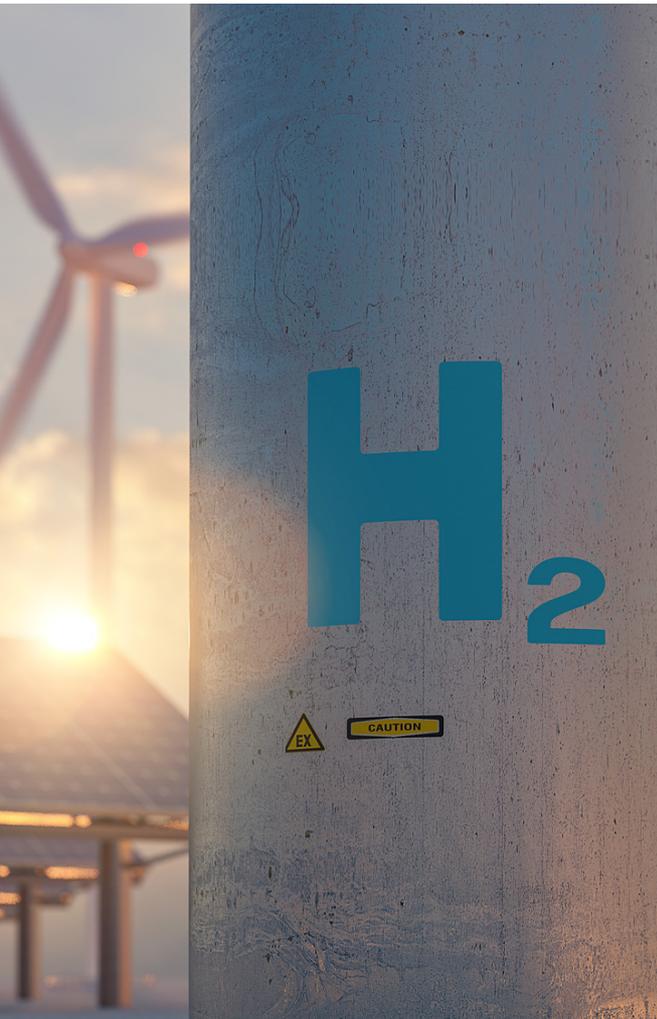
This brochure showcases some of the UK's hydrogen capabilities by highlighting a selection of the UK innovators at this Summit. From the development of cutting-edge technologies to the creation of new jobs and investment opportunities, the UK's commitment to Hydrogen is driving economic growth and providing sustainable solutions for a cleaner future. Here are some of our specialities:

- Water electrolysis materials, engineering, stacks and systems (power to gas and refuelling)
- Methane reforming catalysts and process engineering
- Consultancy including project development and safety
- Fuel cells including high power density PEM and Solid Oxide Fuel Cells (SOFC)
- Transport applications including bus design and combustion engine conversion
- Storage facilities such as salt caverns
- Prototypes for hydrogen ready boilers



Ricardo Solis

Senior Trade Advisor - Energy
Department of Business & Trade The
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The UK has the ideal geology for large-scale hydrogen storage in salt caverns and disused oil and gas fields under the North Sea. The UK's mature oil and gas industry will play a central role in delivering carbon capture, utilisation and storage (CCUS) enabled hydrogen.

The North Sea Transition Deal is expected to unlock investment, secure up to 40,000 jobs, reduce emissions by up to 60 million metric tons and promote domestic supply chains. The deal commits the oil and gas industry to deliver investment of up to £14 to £16 billion by 2030 in new energy technologies, including electrolytic and CCUS-enabled hydrogen production capacity.

UK hydrogen demand is estimated to reach 80 to 140 terawatt-hours in 2035. The increase in UK hydrogen production ambition, with a greater focus on electrolytic hydrogen, has opened potential opportunities to export hydrogen from the UK at scale, particularly to continental Europe.

Join us on this journey to explore the UK's Hydrogen sector and discover the exciting opportunities that lie ahead.



UK based companies



Advanced Biofuel Solutions Ltd

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ABSL developed and owns RadGas, a leading and proven technology for waste to gas production with negative CO2 emissions. RadGas technology addresses 3 key issues:

1. Provide better ways for dealing with waste.
2. Create much needed Low Carbon Biofuels
3. Carbon Capture



ARUP

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Arup is a global collective of designers, consultants and experts dedicated to sustainable development, and to using imagination, technology and rigour to shape a better world. We're partnering with clients worldwide from governments and energy networks to investors to spur adoption of hydrogen.



Bramble Energy

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Bramble Energy's PCBFC™ fuel cell stack technology revolutionises the entire fuel cell sector. Their technology has a scalable, global manufacturing base meaning there is no need to build gigafactories - they've already got them; their fuel cell stacks are form factor flexible and are designed bespoke to each customer; but more importantly, they have the innovation, technology and manufacturing route to provide the lowest cost fuel cell for every application, whether for mobility, stationary or portable applications.

UK based companies



The Carbon Trust

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The Carbon Trust is a climate consultancy working with businesses, governments and financial institutions to transform the markets central to a decarbonised future. Carbon Trust's Clean Hydrogen Innovation Programme (CHIP) is a multi-year collaborative research, development and deployment programme led by industry. CHIP aims to accelerate the deployment of clean hydrogen in the UK through technical innovation to drive down end-to-end cost and help make clean hydrogen cost competitive with conventional alternatives.



Centrica Business Solutions

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Centrica Business Solutions helps organisations balance the demands of planet and profit, with 1MW+ onsite, behind-the-meter energy solutions for the public sector and large industrial businesses. With over 200 years' energy market experience, we've got the deep industry expertise that's needed to deliver your end-to-end heat and energy needs.



Jacobs

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Jacobs is a technical consultancy that leverages our global deployment of talent to devise and deliver critical solutions to some of the world's biggest disruptors related to energy security, energy decarbonization, climate response, infrastructure and more. With its potential to decarbonize a broad spectrum of industries, hydrogen is currently receiving renewed attention in many countries around the world as an alternative energy storage solution. We specialize in delivering turquoise, green and pink hydrogen projects from strategy to concept, through to design and program delivery.

UK based companies



KGD

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KGD supports with constructing H2 compressors packages, refuelling facilities, pipeworks, steelworks, switchboards and more. We provide in-house comprehensive engineering for all disciplines, such as mechanical (3D modelling), electrical & instrumentation. In addition, steel fabrication, piping, tubing, NDT (RX included), paint and specialist coatings, functional testing, etc., along with detailed project and quality documentation. On-site installation and commissioning are available.



Luxfer Gas Cylinders

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Creating a safe, clean and energy efficient world. A world leading Hydrogen fuel storage manufacturer, Luxfer Gas Cylinders embedding hydrogen technology into the transport industry is significant across the world. Its high-performance G-Stor® H2 cylinders are offered alongside a bespoke design and build capability.



Mott MacDonald

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Together with our clients, we're helping to deliver the energy transition globally. Our purpose is to improve society by considering social outcomes in everything we do, relentlessly focusing on excellence and digital innovation, transforming our clients' businesses, our communities and employee opportunities. Projects involving hydrogen require a holistic approach to energy systems with input needed from energy, transportation, and buildings sectors. We have the expertise to cover entire project lifecycles in all three sectors.

UK based companies



Rolls Royce

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With more than a century of experience in engineering and technology across various industry transformations, Rolls-Royce understands that a diverse portfolio of renewable technologies is essential to achieve a successful energy transition. Our innovative solutions span from battery energy storage for grid services to hydrogen fuel cells for secure and resilient power, and from hydrogen combustion engines to engines capable of running on sustainable aviation fuel, HVO, and e-methanol. With a proven track record of delivering power solutions for stationary, aviation, marine, and rail sectors, we have a comprehensive understanding of our clients' perspectives as off-takers. Now, by acquiring a majority stake in the hydrogen startup Hoeller, Rolls-Royce has gained access to state of the art technology to break into the electrolyzer market.

px Group

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px Group is a leading infrastructure solutions business and operator of several critical energy sites in the UK and Norway with 30 years' experience safely operating high hazard, highly regulated assets. We are expanding activities into Germany and the Netherlands and have recently been appointed operator at GIDARA Energy's flagship bio-methanol plant in Amsterdam.

We own the world-renowned Saltend Chemicals Park at the heart of the Humber Estuary, home to global manufacturing businesses including BP, Mitsubishi Chemicals, INEOS and Equinor. Saltend is the key platform for industrial decarbonisation in the UK. With partners, we are deploying green and blue hydrogen, clean fuels and CCUS, to deliver a clean energy transition park of the future.

Great Energy
comes from
many sources



Gin Tasting Hosts



Arbikie Highland Estate

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Arbikie grow all the crops that are used in their range of gin, vodka and rye whisky on the farmland surrounding the distillery ensuring provenance, quality and negligible food miles. The distillery is currently utilises solar potheyr and is moving to zero-carbon 100% hydrogen potheyr. Arbikie's Nàdar Gin and Vodka are the World's first climate positive, carbon negative spirits; distilled from peas grown on the estate, each 700ml bottle has a carbon footprint of -1.54kg CO₂e.

Department for Business and Trade

The UK's Department for Business and Trade (DBT) helps businesses export, drives inward and outward investment, negotiates market access and trade deals, and champions free trade.

We are an international economic department, responsible for:

- supporting and encouraging UK businesses to drive sustainable international growth
- ensuring the UK remains a leading destination for international investment
- opening markets, moulding the trade environment with new and existing partners which is free and fair
- using trade and investment to underpin the government's agenda for a Global Britain and its ambitions for prosperity, stability and security worldwide.

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Published by
Department for International Trade
May 2023

