



UK HYDROGEN ALLIANCE ESTABLISHED TO ACCELERATE ZERO CARBON AVIATION AND BRING AN £34BN ANNUAL BENEFIT TO THE COUNTRY

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A group of leading companies in the UK aviation and renewable energy sectors including easyJet, Rolls-Royce, Airbus, Ørsted, GKN Aerospace and Bristol Airport, have today established the Hydrogen in Aviation alliance to accelerate the delivery of zero carbon aviation. HIA will work to ensure the UK capitalises on the huge opportunity hydrogen presents to both the aviation industry and country as a whole. While there are various options for decarbonising the aviation sector, including sustainable aviation fuels, synthetic fuels or batteries, HIA believes that more attention should be paid to the potential of the direct use of hydrogen.

Hydrogen is a very promising alternative-fuel option for short-haul aviation. Airbus is developing new hydrogen powered aircraft with the aim of entering commercial service from 2035 and Rolls-Royce has already proven that hydrogen could power a jet engine following successful ground tests in 2022. Furthermore, many smaller operators are making rapid progress on hydrogen-

powered aircraft, notably ZeroAvia and Universal Hydrogen who have already carried out flight tests.

The group will be drawing on their considerable expertise to propose a clear and deliverable pathway to achieving hydrogen-powered aviation. HIA will work constructively with Government, local authorities, and the aviation and hydrogen sectors to enable the UK to fulfil its potential as a global leader in this critical application of hydrogen technology. This will include setting out the pathway for scaling up the infrastructure and the policy, regulatory and safety frameworks needed so that large scale commercial aviation can become a reality.

The alliance will set out that Government needs to be focused on three key areas which are; supporting the delivery of the infrastructure needed for the UK to be a global leader; ensuring the aviation regulatory regime is hydrogen ready; and transforming the funding for hydrogen aviation R&D support into a 10 year programme, if the UK is to see the economic benefits and meet decarbonisation targets.

Johan Lundgren, CEO of easyJet and first Chair of HIA, commented: "There is no doubt that the UK has the potential to become a world leader in hydrogen aviation, which could bring with it a £34bn per annum boost to the country's economy by 2050, but in order to capture this opportunity, rapid change is needed and the time to act is now. We must work together to deliver the radical solutions required for a hard to abate industry like aviation so we can protect and maximise the benefits that it brings to the UK economy and society and that we know British consumers want to be preserved. HIA looks forward to working with the UK Government to ensure the right funding, regulatory and policy changes are implemented to accelerate the delivery of zero carbon aviation."

Grazia Vittadini, Chief Technology Officer at Rolls-Royce, said: "Collaboration is key when it comes to achieving our net zero ambitions as an industry, which is why we are proud to be part of the Hydrogen in Aviation Alliance. Our contribution to HIA is the capability and experience we have in pioneering new technologies and solutions - we have already tested a modern aero engine on green hydrogen and we strongly believe it is one of the solutions that will help decarbonise aviation in the mid to long-term."

Sabine Klauke, Chief Technology Officer at Airbus said: "As Airbus continues to mature the aircraft technologies needed to deliver hydrogen-powered flight, a united industry voice is needed to secure a robust ecosystem of renewably-sourced hydrogen. Joining our peers from across the UK aviation landscape in a targeted approach to policy and investment action brings us closer to a decarbonised future of flying."

Olivia Breese, Senior Vice President and Head of Power-to-X for Ørsted, commented: "Ørsted is fully committed to renewable hydrogen as a key solution to defossilise hard-to-electrify sectors such as aviation. Our long experience in developing and deploying new technologies has taught us that collaboration across policy makers, developers, customers and supply chain - and considerable investment from each of them – is critical to bring down costs and drive a new sector to scale. Alliances such as the HIA are essential to bring together different actors across the value chain to support and accelerate the role hydrogen can, and must, play in the UK."

Hydrogen is key to UK industry, jobs and net zero ambitions: Experts suggest that hydrogen powered aviation will not only be critical in delivering net zero, but also provide a significant boost to the UK economy. The DfT's Jet Zero Strategy states that rapid investment in hydrogen aviation could see the UK securing 60,000 new jobs and recent projections from Hydrogen UK** predicts that hydrogen could contribute to £18bn GVA and help meet up to 50% of our energy demand by 2050.

The rate of research and development within the UK means that the aviation sector is already in an advanced position to take advantage of this significant opportunity. For instance, last year saw the first ground test of a fully hydrogen-powered jet engine and the first hydrogen powered narrow-body aircraft is expected to be ready for short-haul flights across the UK and Europe by 2035.

The benefits of hydrogen-powered flight are many and varied: Decarbonising aviation is a significant challenge which will require the successful deployment and implementation of multiple technologies and approaches, including SAF, as well as hydrogen. However, the use of hydrogen (particularly green hydrogen) has potential as an aircraft fuel as it produces no carbon emissions, compared to other technologies.

It will help to preserve an industry that is a key part of our economy. The UK aviation industry contributes more than £22bn directly to GDP, plus £34 bn from exporting aerospace components. The industry directly employs over 230,000 people.

Investing in hydrogen will also help to preserve the social benefits of flying, continuing to connect consumers to business, loved ones and new destinations.

And lastly it will create jobs. In terms of hydrogen, a consultation from the government in 2021*** revealed that developing a UK hydrogen economy could support over 9,000 jobs by 2030 – and up to 100,000 jobs by 2050 – across our industrial heartlands and across the UK.

The UK is in a strong position to lead the global roll-out of hydrogen in aviation. If we maximise this potential we can transition and upskill existing workforces, whilst creating thousands more jobs through exporting UK-made technologies and knowledge.

The public support for hydrogen in the UK is strong: New research**** of consumer attitudes towards zero-carbon emission solutions has revealed that 81% of the British public believe that hydrogen is the best option to decarbonise aviation. Four in 10 think it's the most important factor while a similar number say they understand it will take hydrogen combined with other solutions such as Sustainable Aviation Fuel and Direct Air Carbon Capture (DACC) to reach net zero.

The overwhelming majority of Brits (91%) would support the UK government investing both in hydrogen's production and use in the aviation sector, and a similar proportion (89%) think that the use of hydrogen should be prioritised for hard to abate sectors like aviation. The nationwide study of 2,000 Brits conducted by HIA founding member easyJet, revealed that half 50% of those surveyed wanted to see the ability to travel the world protected and almost three quarters (71%) are excited to fly on hydrogen planes in the future.

A third also said they believed the aviation sector plays a critical role in helping boost the UK's economy, while a fifth of people (20%) agree the sector plays a critical role in people's livelihoods and 92% agree there is a potential to create many new jobs across the UK if the government invests more into new zero carbon industries and 87% are excited for the economic potential of a new sustainable energy economy.

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