



NEW CONSORTIUM TO ENABLE ZERO EMISSION AVIATION TO TAKE OFF IN AOTEAROA NEW ZEALAND

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Hydrogen Consortium vision is to support the country to pioneer the commercial deployment of green hydrogen-powered aircraft. Partners are international aerospace leader Airbus, global green energy company Fortescue Future Industries, leading world airline Air New Zealand, next generation energy company Hiringa Energy, liquid hydrogen solution pioneers Fabrum and New Zealand's Christchurch Airport. The Hydrogen Consortium was launched at Christchurch Airport, which is developing a 400-hectare renewable energy precinct called Kowhai Park.

Speaking at the launch, Christchurch Airport chief executive Justin Watson said climate change has further strengthened the international aviation sector's resolve to decarbonise: "Major progress is being made," Watson says. "There have been successful test flights of zero emission aircraft already. There are new sustainable aviation fuels that can cut emissions by up to 80% and a huge amount of research is going into how to commercialise these solutions. The Hydrogen Consortium will see some of the world's best experts collaborate on one of the most promising zero emission fuels – green hydrogen."

Airbus is working to develop and put into service the world's first hydrogen-powered commercial

passenger aircraft by 2035. In close cooperation with its partners, Airbus will factor in aviation's requirement for hydrogen in New Zealand. Using its hydrogen hubs at airports concept, Airbus will engage with aviation and non-aviation players to perform a complete assessment of energy supply needs to enable the operation of hydrogen powered aircraft.

Airbus' Vice President of the ZEROe Ecosystem Karine Guenan says the journey to sustainable aviation requires an entire ecosystem to be put into place – one that will involve key players from a variety of sectors: "The consortium we are building brings together a number of pioneering partners with a common interest: to make hydrogen-powered aviation in New Zealand a reality."



Christchurch liquid hydrogen solutions company Fabrum recently designed the hydrogen-powered technology for the Emirates Team New Zealand chase boat (Chase Zero) and has developed lightweight liquid hydrogen fuel tank technology for aviation use.

Co-founder Christopher Boyle is in no doubt the future of clean aviation rests on the shoulders of green hydrogen: "The consortium pulls together some of world's best experts in green hydrogen – having all of these organisations around the same table will turbocharge what we all learn. Together we'll make a big difference in taking zero emission aviation forward which is good news to anyone who wants to fly sustainably in the future," said Christopher Boyle.

Hiringa Energy is a pioneering green hydrogen developer, producer and supplier. It's constructing key infrastructure to support New Zealand's transition to green hydrogen in multiple transport sectors including aviation, marine and heavy road transport. Hiringa's first four production and high-capacity refuelling stations are coming online in 2023, with nationwide expansion planned from 2024.

Its chief executive Andrew Clennett said green hydrogen adoption is accelerating around the world, and New Zealand is well positioned to be a leader in this space: "There are green hydrogen-fuelled buses, trucks, trains and boats already in service - some of them we have been refuelling here in New Zealand, including the Emirates Team New Zealand chase boat. Aircraft

are a key next step, and this consortium has formed to ensure these planes have the infrastructure and hydrogen supply they will need to take off here. Our team is very motivated to leverage our hands-on experience bringing green hydrogen to market to make this transition happen”

A focus on research; the potential for trial flights in New Zealand Over the next six months the partners will work together to design a hydrogen ecosystem for aviation in New Zealand. The first phase will focus on research, which will be completed by the end of 2023.

The consortium will develop a vision for hydrogen aviation in New Zealand, examine the hydrogen supply chain and its challenges, assess the local aviation market’s projected hydrogen needs to 2050, and develop a pathway of policies, regulations and incentives to promote the development of hydrogen aviation.

The second phase will focus on whether hydrogen aircraft test flights can be held in New Zealand. Air New Zealand has two ambitious goals – to fly its first commercial demonstrator flight from 2026 and begin replacing its Q300 Turboprop fleet from 2030 with low emission aircraft.

The airline’s Chief Sustainability Officer Kiri Hannifin said the consortium’s work will be important to Air New Zealand achieving those ambitions: “To fly hydrogen-powered aircraft in New Zealand we will need an aviation ecosystem that can support it. The Hydrogen Consortium brings together energy, aircraft, airline operator and airport expertise with the aim of bringing this to life. We can’t wait to see what we can achieve together,” said Ms Hannifin.

Fortescue Future Industries CEO Mark Hutchinson said the coming together of such innovative organisations marked a significant moment in the pursuit of fossil fuel-free air travel: “Fortescue Future Industries is a global green energy and technology business that will bring to the consortium its knowhow in mega-scale renewables and zero-emissions green hydrogen production and delivery,” Mr Hutchinson said. “We are on a mission to eliminate fossil fuels, including from the aviation industry, and green hydrogen is the key to achieving this.

“Green hydrogen and green energy is the practical, implementable solution we all need now and we must race to deliver it at scale. The consortium members all have extraordinary expertise in and commitment to the decarbonisation of air travel and together we believe we can develop a pathway to New Zealand becoming a global trailblazer in this pursuit,” concluded Mark Hutchinson.



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