

## **Zero Petroleum signs game-changing fossil-free synthetic fuel development contract with the Royal Air Force**

**19<sup>th</sup> July, 2022:** The development of commercial grade fossil-free synthetic aviation fuel has taken a giant leap forward after Zero Petroleum signed a contract to work with the Royal Air Force on scaling up the technology to support its net zero goals. The research programme – announced today at the Farnborough International Airshow - will provide data to evidence the scalability and efficiency of the technology, which could be a viable alternative to fossil fuels.

Zero Petroleum's synthetic ZERO<sup>®</sup> SynAVGAS<sup>®</sup> and ZERO<sup>®</sup> SynAVTUR<sup>®</sup> fuels are direct drop-in replacements for existing fossil-based aviation fuels. They deliver the same performance and range as existing products, but with an entirely sustainable and fossil-free circular lifecycle. The fuels have the potential to massively reduce and eventually eliminate reliance on fossil fuels in the aviation industry.

Zero Petroleum, which is founded and run by former Formula One team Technical Director Paddy Lowe, began working with the RAF last year. Together they achieved the Guinness World Records<sup>®</sup> title of 'First aircraft powered by synthetic fuel' with a round-trip flight out of Cotswold Airport in November 2021. The new agreement will see the partnership expand to develop fuel certifications and design blueprints in order to enable the construction of squadron-scale manufacturing capability.

**Defence Procurement Minister Jeremy Quin said:** "The creativity and ingenuity of the RAF and UK industry, backed by our ring-fenced research and development funding, has resulted in ground-breaking new fuel technology. It has the potential to improve operational resilience while eliminating fossil carbon emissions in flight."

**Zero Petroleum Founder and CEO Paddy Lowe said:** "The RAF's vision for fossil-free flight using synthetic fuels is matched by Zero Petroleum's commitment and enthusiasm to deliver the solution using unique British technology. Together we showed what was possible with our record-breaking demonstration flight in 2021. We are incredibly excited to start now on the important development of this technology to production readiness in advance of deployment at scale to flight operations. We could not wish for a better partner than the RAF, which has been a pioneer throughout its 100+ years of existence."

**Chief of the Air Staff, Air Chief Marshal Sir Mike Wigston said:** "This ground-breaking collaboration with Zero Petroleum is a glimpse of the future for aviation fuel. It points to how we will crack the NetZero challenge as a national and international endeavour, and the leading role the Royal Air Force and UK science and technology can play in that".

ZERO® fuels are entirely synthetic, manufactured by extracting hydrogen from water and carbon from atmospheric carbon dioxide. Using energy generated from renewable sources like wind or solar, these are combined to create the drop-in synthetic fuel. This technology is a viable substitute for all fossil-petroleum demand at scale, without the land-use and scaling limitations of bio- and waste-based systems. As a result, fuel manufactured using this technology could eliminate fossil carbon emissions in flight, reduce the RAF's reliance on global supply chains, and increase operational resilience.

Since the record-breaking flight last November, the first prototype of Zero Petroleum's automotive fuel, ZERO® Syn95™, has become the first fully synthetic fuel to power a motorbike, when the Duke of Richmond used it at the Goodwood Festival of Speed in the machine on which he travels around the event grounds. It also appeared on BBC Top Gear, when the presenting team used it to fuel two supercars and subsequently declared it a 'magic bullet' for the automotive industry that heralds a 'bright new dawn.'

This latest stage of development for the company's synthetic aviation fuels will last for two years, with the aim of achieving a fast-jet test flight within 18 months and in due course a squadron-level scale-up within 3-4 years. The RAF believes this sustainable aviation fuel could mark a step-change towards its goal to be net zero by 2040. Working towards the Government's Net Zero by 2050 goal, the RAF also plans for their first net zero airbase by 2025.

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**Notes to editors:**

More information about November's record-breaking flight can be found [here](#).

**About Zero Petroleum**

Zero Petroleum is a British technology company that makes whole-blend synthetic, non-biological fuels – petrol (gasoline), diesel and jet fuel – in a completely fossil-free process, using just carbon dioxide taken from the air and renewable hydrogen made from water. Zero Petroleum calls this process petrosynthesis. Synthetic fuels, which can be made at scale, can be dropped straight into the existing engines of cars, aircraft, commercial and agricultural vehicles, allowing them to run sustainably in exactly the same way and with the same performance as they do on fossil fuels, without the need for any engine modification. Synthetic fuels eliminate greenhouse gas accumulation through the creation of an industrial carbon cycle, and so eliminate the need for fossil fuels in global industries such as aviation. Petrosynthesis is the answer to the problem faced by industries that cannot be electrified – it provides a total substitute for fossil fuel and ultimately all types of fossil petroleum used in the petrochemical industry for the wide range of materials that are essential to modern life.



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**MEDIA ENQUIRIES**

**On event media enquiries at Farnborough International Airshow please contact:  
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