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# Advanced Fuels Fund (AFF) competition winners

Published 22 December 2022

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The winning proposals for the [Advanced Fuels Fund \(AFF\) competition](#) were announced on 22 December 2022.

Each organisation will receive a share of £165 million for the development of sustainable aviation fuel (SAF) production plants in the UK. The following projects have been awarded funding.

## Winning organisations

### **alfanar Energy Ltd (Lighthouse Green Fuels)**

Based in the Industrial Cluster at Teesside, the project is developing a commercial scale plant that uses gasification and Fischer-Tropsch technology to convert black bin bag waste into sustainable aviation fuel (SAF). The plant is expected to be operational in 2028 and produce 86.6 kt/y of SAF when at full operational capacity.

**Award: £11,001,000**

### **Fulcrum BioEnergy Ltd (NorthPoint)**

Based in Ellesmere Port, Cheshire, the project is developing a commercial scale plant that uses gasification and Fischer-Tropsch technology to convert black bin bag waste into sustainable aviation fuel (SAF). The plant is expected to be operational in 2027 and produce 83.7kt/y of SAF when at full operational capacity.

**Award: £16,764,000**

### **Lanzatech UK Ltd (DRAGON)**

Based in Port Talbot, South Wales, the project is developing a commercial scale plant that converts steel mill off-gases into ethanol and then uses alcohol-to-jet technology to produce sustainable aviation fuel (SAF). The plant is expected to be operational in 2026 and produce 79kt/y of SAF when at full operational capacity.

**Award: £24,960,843**

### **Velocys plc (Altalto)**

Based in Immingham, Lincolnshire, the project is developing a commercial scale plant that uses gasification and Fischer-Tropsch technology to convert black bin bag waste into sustainable aviation fuel (SAF). The plant is expected to be operational in 2028 and produce 37.4kt/y of SAF when at full operational capacity.

**Award: £27,000,000**

## Velocys plc (e-Alto)

This project is developing a large demonstration plant that uses power-to-liquid technology to convert carbon dioxide from a fossil gas-powered electricity plant and hydrogen made from renewable electricity into sustainable aviation fuel (SAF).

**Award: £2,523,094**

## Background

All selected projects have demonstrated their potential to produce sustainable aviation fuel (SAF) capable of reducing emissions by more than 70% on a lifecycle basis when used in place of conventional fossil jet fuel.

The competition provides grant funding to first-of-a-kind (FOAK) commercial and demonstration-scale projects in the UK at all development stages up to construction starting, including:

- parts of engineering, procurement and construction (EPC)
- front-end engineering and design (FEED)
- pre-front-end engineering and design (Pre-FEED)
- feasibility study

This grant funding will directly contribute towards to the establishment of a UK SAF industry. Research indicates that by 2035, the SAF sector could generate a gross value added (GVA) of up to £742m annually and support up to 5,200 jobs.

A further 13,600 jobs could be generated from the growing market for sustainable aviation fuels through global exports. In addition, the UK manufactured fuels could deliver a £550m per annum benefit to the UK's balance of payments and increase fuel security.

This competition builds on the work of previous Department for Transport industry competitions, including the Advanced Biofuels Demonstration Competition (ABDC), the Future Fuels for Flight and Freight Competition (F4C) and the Green Fuels, Green Skies (GFGS) competition. All of which aimed to unlock future environmental and economic benefits that the advanced fuels industry can bring to the UK.

The Advanced Fuels Fund is being delivered with the support of Ricardo Energy and Environment and E4tech.

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