



Department  
for Transport

# UK SAF policy

March 2023

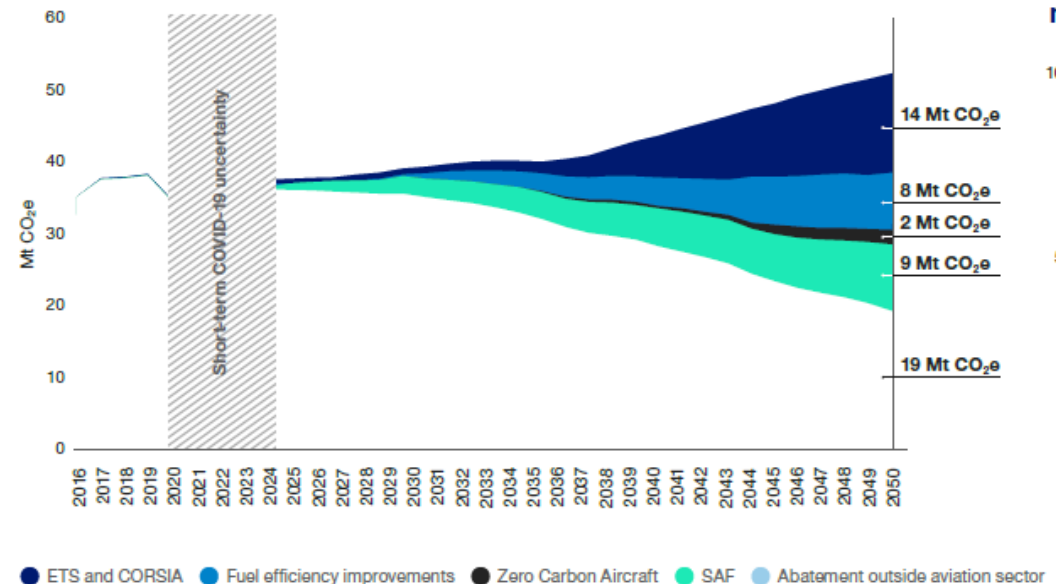


# SAF will play a key role in reaching net zero

- UK aviation carbon dioxide emissions **more than doubled between 1990 - 2019**, reaching 38.2 MtCO<sub>2</sub>e
- Aviation is expected to become one of **the largest residual emitting sectors** by 2050
- Aviation emissions are **not easy to address** -technological solutions have long lead-times and are at an early stage of development
- The Climate Change Act 2008 sets a **legally binding target for the UK to achieve net zero emissions by 2050 and includes the UK's aviation emissions**

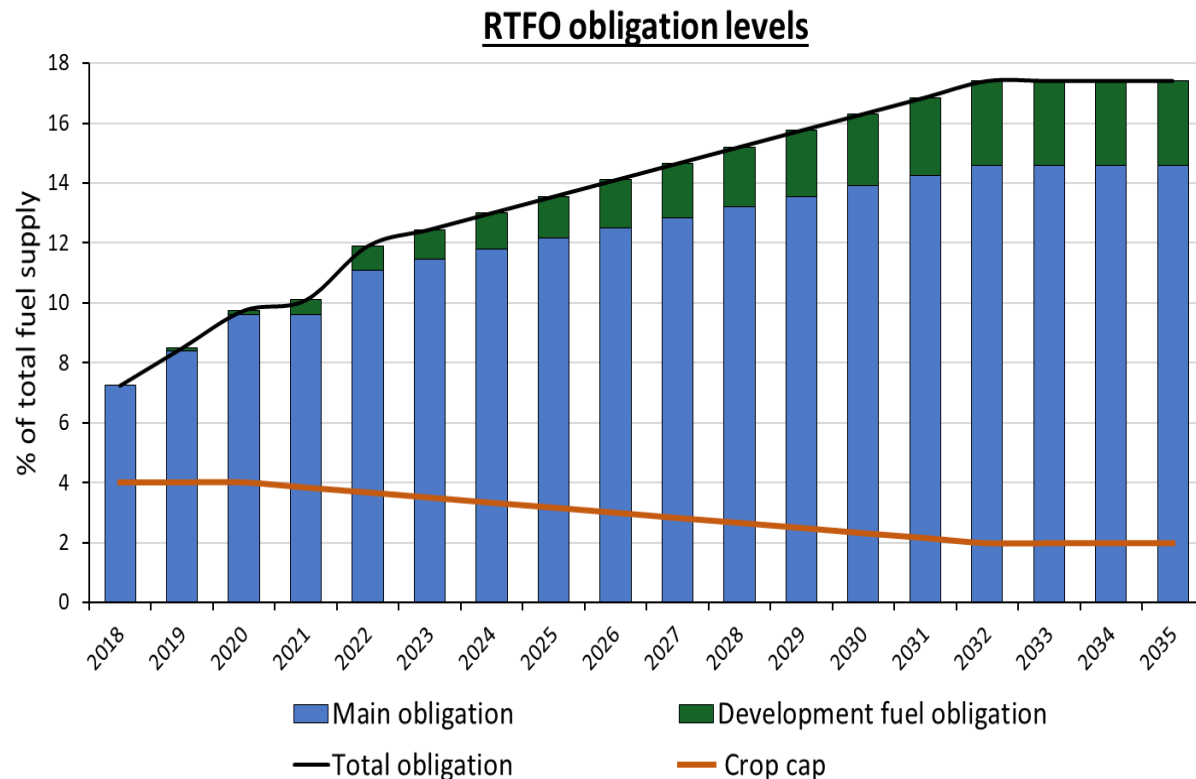
## Jet Zero Strategy

### Our High Ambition Scenario



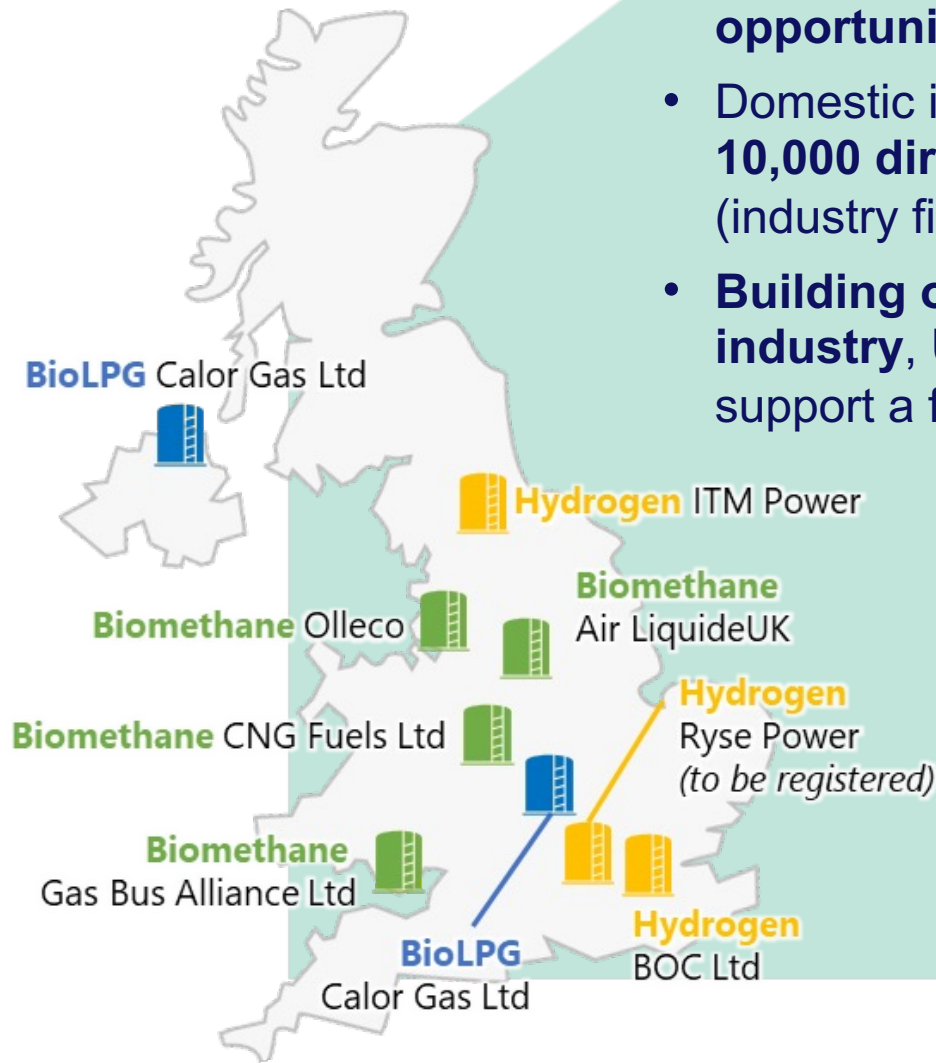
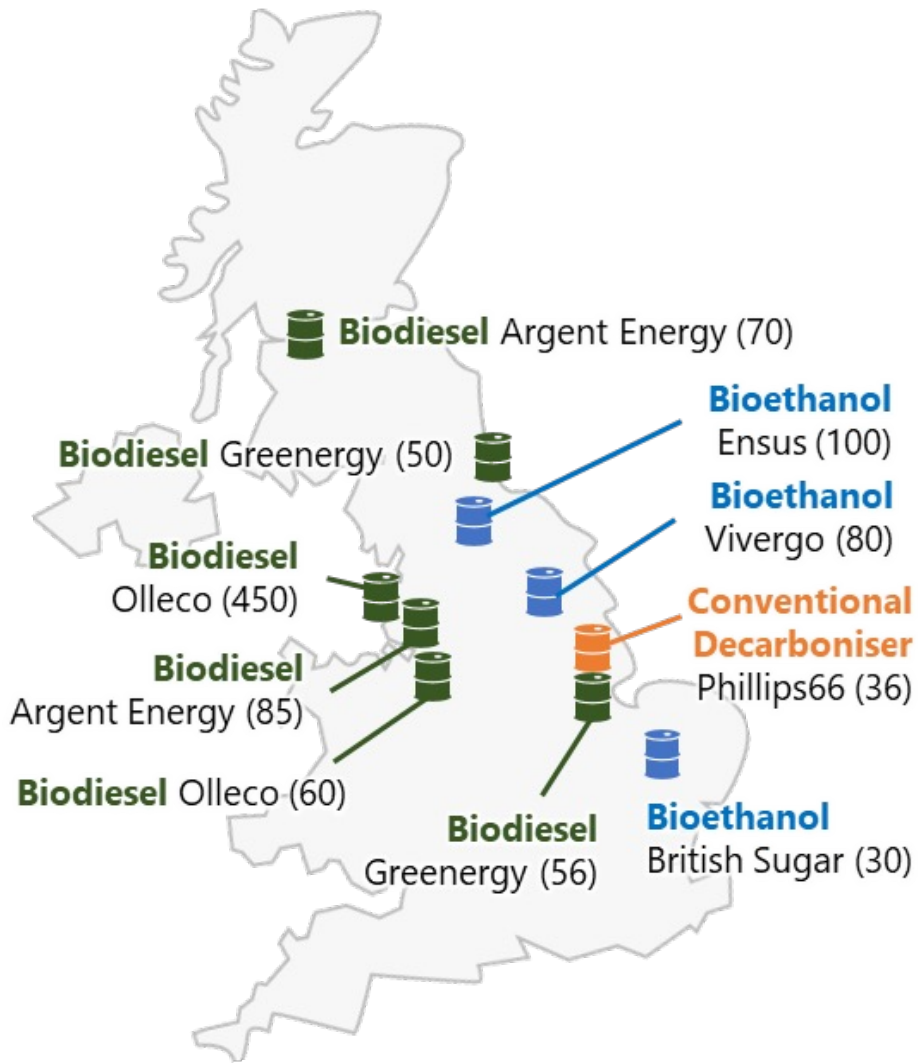
# We want to build on the success of The Renewable Transport Fuel Obligation

The **Renewable Transport Fuel Obligation** (RTFO) provides a regulatory framework to decarbonise transport by supporting the supply of renewable fuels. The RTFO obligates suppliers of fuel to road transport (and non-road mobile machinery) to supply renewable fuel. Targets increase over time.



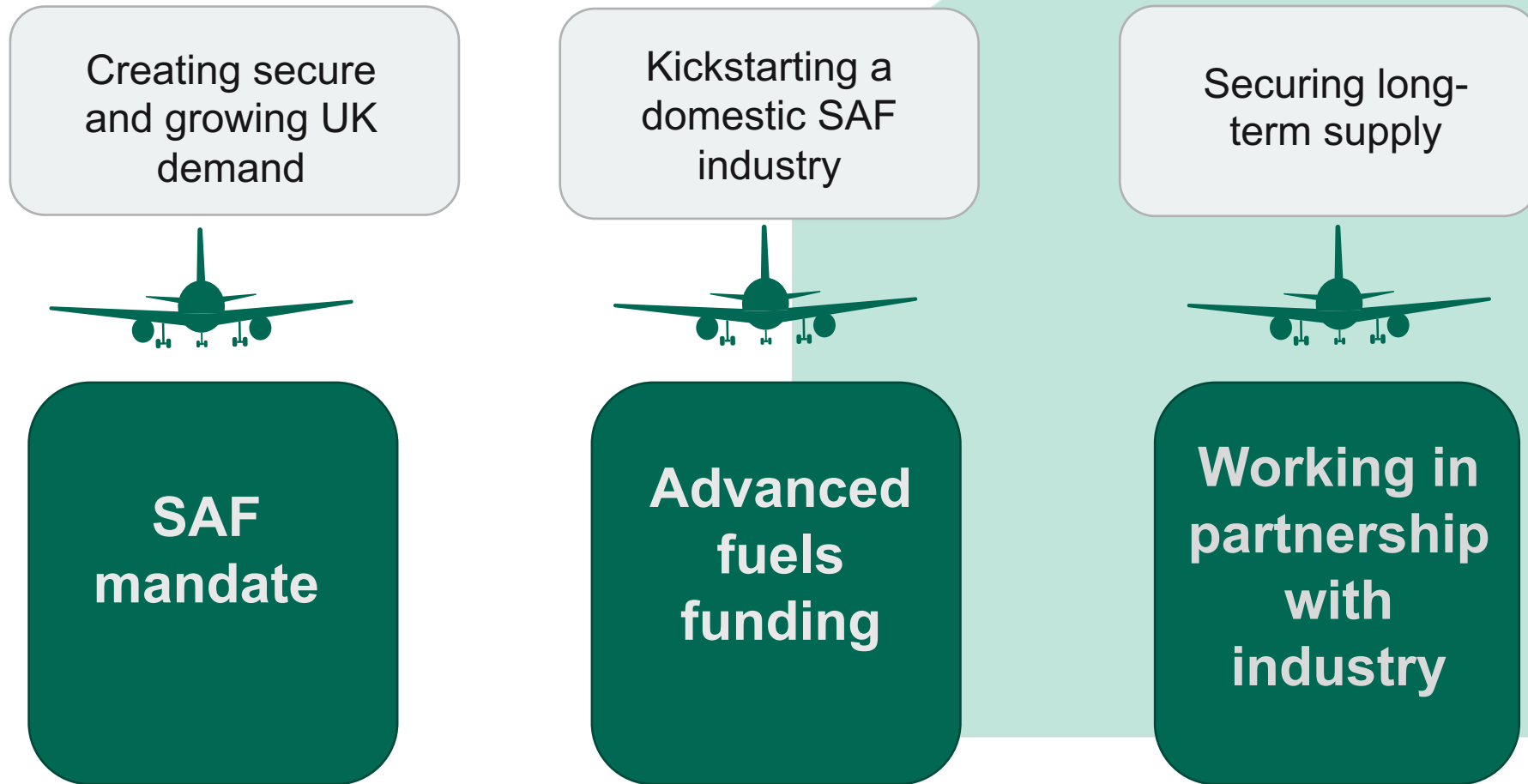
- The RTFO is an established scheme which has been in place since 2008
- **The RTFO delivers a third of domestic transport carbon savings under current carbon budgets**
- **Size of current UK market: Over 2.5bn litres supplied in 2021 under RTFO (5.9% total road fuels) – both from imports and domestic production**
- For context our 10% SAF target for 2030 equates to around **1.5 bn litres of SAF**

# Building upon a successful UK industry



- Investment, growth and job opportunities
- Domestic industry supports more than **10,000** direct and indirect jobs (industry figures)
- **Building on the existing LCF industry**, UK SAF production could support a further 4,900-11,500 jobs

# We are preparing the UK to be a global leader in the development, production and use of SAF



# UK SAF strategy 1



# Creating UK demand - published commitments on the SAF mandate

At least 10% SAF  
by 2030

GHG emissions  
scheme with  
tradable  
certificates

Obligation on fuel  
suppliers from  
**2025**  
The scheme will  
run alongside the  
RTFO

SAF must meet  
strict sustainability  
criteria

Eligible fuels:  
waste-derived  
biofuels, recycled  
carbon fuels and  
power to liquid  
(PtL)

**PtL fuels**  
promoted via a  
subtarget.  
SAF derived from  
**HEFA** will be  
capped

At least 5  
commercial-scale  
plants under  
construction by  
2025

Working on how to  
create long-term  
conditions for  
investible SAF  
projects in the UK

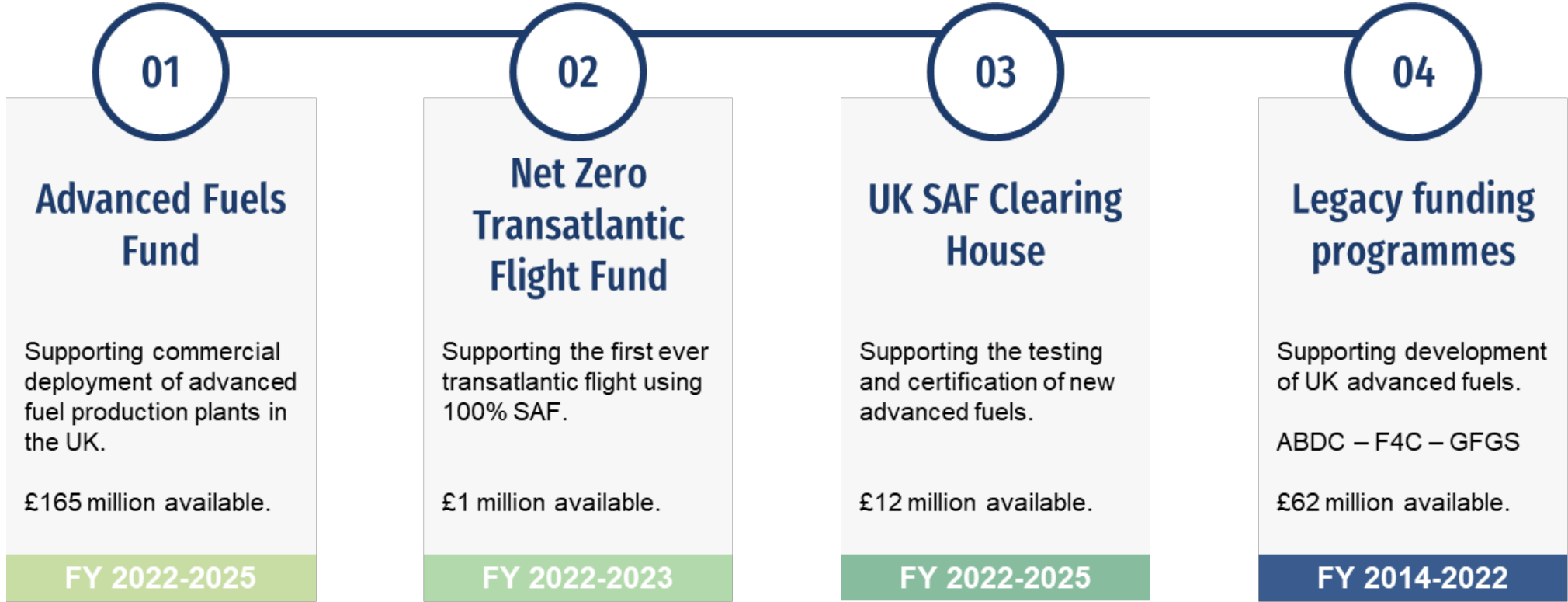
# UK SAF strategy 2

Kickstarting a  
domestic SAF  
industry



**Advanced  
fuels  
funding**

# Kickstarting a domestic SAF industry - SAF funding programmes



Useful links: [Advanced Fuels Fund webpage](#); [Net Zero Transatlantic Flight Fund webpage](#); [ABDC webpage](#); [F4C webpage](#); [GFGS webpage](#)

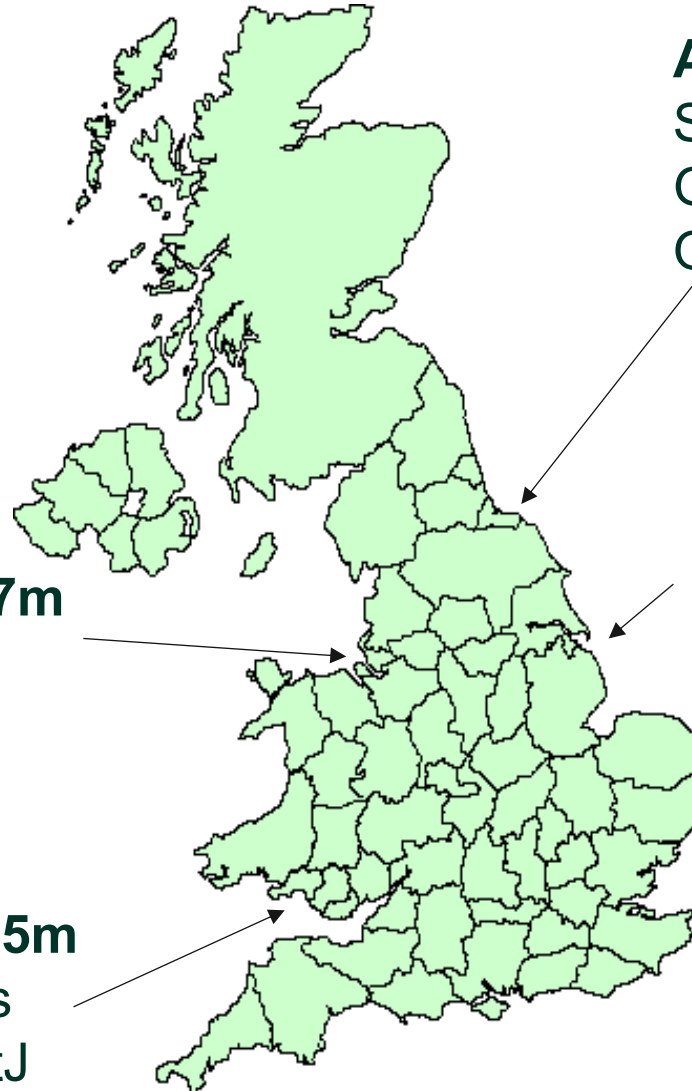
# Advanced Fuels Fund - five projects will receive a share of £80m

MSW –  
municipal  
solid waste  
FT – Fischer  
Tropsch  
AtJ – alcohol  
to jet  
CCGT –  
combined  
cycle power  
plant

**Velocys (e-Alto) £2.5m**  
Location TBC (feasibility)  
PtL (fossil CCGT plant)  
Operational 2029 (16.4kt/y)

**Fulcrum (Northpoint) £16.7m**  
Stanlow, Ellesmere Port  
Gasification and FT (MSW)  
Operational 2027 (83.7kt/y)

**Lanzatech (Dragon) £25m**  
Port Talbot, South Wales  
Gas fermentation and AtJ  
Operational 2026 (79kt/y)



**Alfanar (LGF) £11m**  
Stockton-on-Tees, Teesside  
Gasification and FT (MSW)  
Operational 2028 (86.6kt/y)

**Velocys (Alto) £27m**  
Immingham, Lincolnshire  
Gasification and FT (MSW)  
Operational 2028 (37.4kt/y)

# UK SAF strategy 3

Securing long-term supply



**Working in partnership with industry**

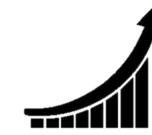


# Creating the right long-term conditions for investable SAF projects in the UK

- We are working with industry and investors on how we collectively build a successful UK SAF production industry
- We want to ensure domestic supply of SAF in an increasingly competitive global market
- Response to SAF mandate consultation: 56/66 agree that a more comprehensive policy framework beyond the SAF mandate is required to meet this aim



Increased fuel resilience



Economic growth across UK regions



UK Green Jobs

**>£1 billion**

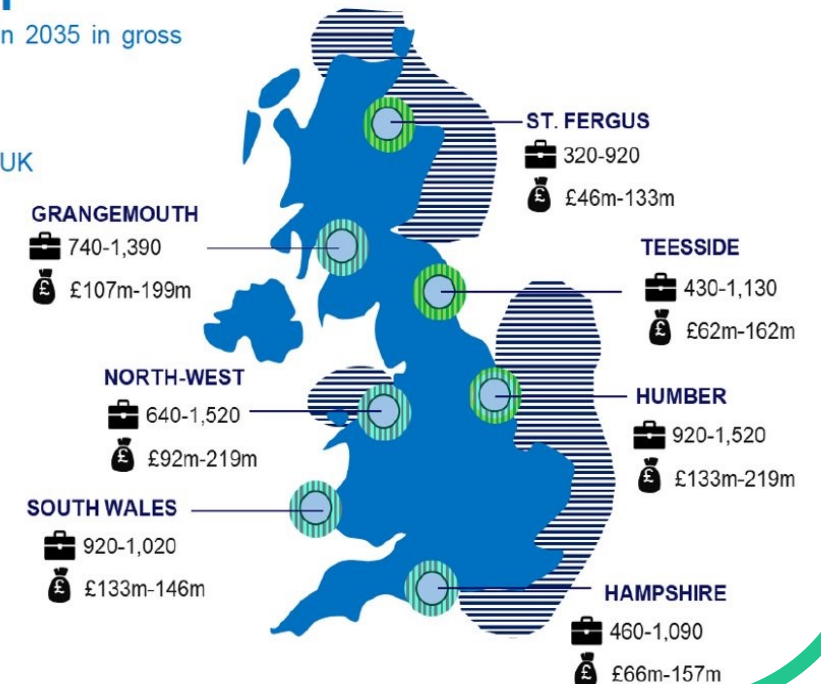
per year for the UK in 2035 in gross value added (GVA)

**> 5,000**

green jobs across the UK

► This map presents an estimate of the potential for the domestic SAF industry. It is modelled on independent research work commissioned by Sustainable Aviation, a UK aviation industry coalition.

- Approx. number of jobs created
- Annual GVA
- Potential SAF plant site
- Carbon capture and storage facilities developing
- Existing refineries and infrastructure
- Offshore wind clusters



# Next steps for UK SAF policy

Creating secure and growing UK demand



- **Second consultation on the SAF mandate – confirm trajectories, level of support etc**
- **Legislation from 2025**

Kickstarting a domestic SAF industry



- **Grant funding for SAF plants**
- **Net Zero Transatlantic flight - late 2023**
- **Launch UK clearing house**

Securing long-term supply



- **Respond to recommendations from independent report on actions needed to build UK SAF industry**

# Sustainable aviation fuel – opportunities and challenges

## Advantages of SAF

- Lifecycle greenhouse gas emissions reduction by at least 70% when fully replacing jet fuel
- Limited or no changes to engines, aircraft or refuelling infrastructure
- Reduction in emissions of some pollutants
- Increased fuel resilience
- UK green jobs and economic growth

## Challenges of SAF

- Cost - 2x to 8x more expensive than conventional jet fuel
- Technology and construction risks – technology is new and commercial production will be first of a kind
- Uncertain future revenues
- Securing finance
- Sustainable feedstock availability
- Increasing global demand and competition:
  - US blenders tax credit
  - EU mandate

# UK SAF Clearing House

- Will support and co-ordinate testing and certification of new SAF
- Aims to de-risk testing process and increase accessibility for SAF producers, similar to US model
- Will operate as a 'hub and spoke' model to co-ordinate network of testing facilities in the UK
- £12m from 2022–2025 for delivery partner and grant funding
- Preparing to appoint delivery partner and finalise operating model

# Net Zero Transatlantic Flight Fund



- Virgin Atlantic announced as the winners in December
- 100% SAF with carbon offsetting
- Gather valuable test data including on non-CO2 impacts